



Calhoun: The NPS Institutional Archive
DSpace Repository

Theses and Dissertations

1. Thesis and Dissertation Collection, all items

2007-12

Solving the principal - agent problem in Iraq: economic incentives create a new model for security

Cole, Verlan R.; Hollingsworth, L. Scott; Cramer, Jayson L.

Monterey, California. Naval Postgraduate School

<http://hdl.handle.net/10945/10189>

This publication is a work of the U.S. Government as defined in Title 17, United States Code, Section 101. As such, it is in the public domain, and under the provisions of Title 17, United States Code, Section 105, is not copyrighted in the U.S.

Downloaded from NPS Archive: Calhoun



Calhoun is the Naval Postgraduate School's public access digital repository for research materials and institutional publications created by the NPS community. Calhoun is named for Professor of Mathematics Guy K. Calhoun, NPS's first appointed -- and published -- scholarly author.

Dudley Knox Library / Naval Postgraduate School
411 Dyer Road / 1 University Circle
Monterey, California USA 93943

<http://www.nps.edu/library>



NAVAL POSTGRADUATE SCHOOL

MONTEREY, CALIFORNIA

MBA PROFESSIONAL REPORT

**Solving the Principal – Agent Problem in Iraq:
Economic Incentives Create a New Model for Security**

**By: Verlan R. Cole
Jayson L. Cramer, and
L. Scott Hollingsworth
December 2007**

**Advisors: Francois Melese,
Alan J. Laverson**

Approved for public release; distribution is unlimited.

THIS PAGE INTENTIONALLY LEFT BLANK

REPORT DOCUMENTATION PAGE			<i>Form Approved OMB No. 0704-0188</i>	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188) Washington DC 20503.				
1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE December 2007	3. REPORT TYPE AND DATES COVERED MBA Professional Report	
4. TITLE AND SUBTITLE Solving the Principal-Agent Problem in Iraq: Economic Incentives Create a New Model for Security			5. FUNDING NUMBERS	
6. AUTHOR(S) Verlan R. Cole, Jayson L. Cramer, and L. Scott Hollingsworth				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Naval Postgraduate School Monterey, CA 93943-5000			8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING /MONITORING AGENCY NAME(S) AND ADDRESS(ES) N/A			10. SPONSORING/MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government.				
12a. DISTRIBUTION / AVAILABILITY STATEMENT Approved For Public Release; Distribution Is Unlimited.			12b. DISTRIBUTION CODE	
13. ABSTRACT (maximum 200 words) <p>This report evaluates several alternatives that could be used to form a public policy in Iraq for sharing oil revenues with the Iraqi people. Using the Alaska Permanent Fund dividend as a potential model for Iraq, two key criteria were formulated for comparison and contrast with other alternatives currently available to the Iraqi government. The evaluative criteria were: does the model distribute wealth to the people and does it encourage increased security and stability to protect that means of wealth distribution. The results of a cost-benefit analysis provide a means to evaluate oil distribution schemes and help form appropriate recommendations for Iraqi policy leaders.</p>				
14. SUBJECT TERMS Oil revenue distribution, Iraq stabilization and reconstruction, Alaska Permanent Fund Dividend, privatization			15. NUMBER OF PAGES 133	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT UU	

THIS PAGE INTENTIONALLY LEFT BLANK

Approved For Public Release; Distribution Is Unlimited.

**SOLVING THE PRINCIPAL-AGENT PROBLEM IN IRAQ:
ECONOMIC INCENTIVES CREATE A NEW MODEL FOR
SECURITY**

Verlan R. Cole, Captain, United States Air Force
Jayson L. Cramer, Lieutenant Commander, United States Navy
L. Scott Hollingsworth, First Lieutenant, United States Air Force

Submitted in partial fulfillment of the requirements for the degree of

MASTER OF BUSINESS ADMINISTRATION

from the

**NAVAL POSTGRADUATE SCHOOL
December 2007**

Authors:

Verlan R. Cole

Jayson L. Cramer

L. Scott Hollingsworth

Approved by:

Francois Melese, Co-Advisor

Alan J. Laverson, Co-Advisor

Robert N. Beck, Dean
Graduate School of Business & Public Policy

THIS PAGE INTENTIONALLY LEFT BLANK

SOLVING THE PRINCIPAL–AGENT PROBLEM IN IRAQ: ECONOMIC INCENTIVES CREATE A NEW MODEL FOR SECURITY

ABSTRACT

This paper offers a path for Iraqis to provide for their own security by ensuring each Iraqi citizen has a stake in Iraq's oil wealth. The hypothesis is that private, individual oil ownership provides dual incentives. First, each Iraqi citizen would have an interest in contributing to the security of Iraq's oil infrastructure and in monitoring the quality of investments, since they and their family would directly benefit. Second, if each Iraqi had the ability to convert some of their stake in Iraq's nonrenewable oil resources into renewable financial capital, then they would make entrepreneurial investments that could help diversify Iraq's economy and contribute to economic development. This report evaluates several alternatives that might be offered for consideration by Iraqi policy makers to distribute Iraq's oil wealth directly to the Iraqi people. The Alaska Permanent Fund dividend offers one potential model for Iraq. Other models explored in this study include the experience of Chad and various privatizations that took place in Eastern Europe. The advantages and disadvantages of alternative oil distribution schemes are explored in an effort to offer new insights and opportunities to policy makers. Several criteria were developed to evaluate the proposed alternatives. These criteria were an outgrowth of three main questions asked of each alternative: First, how efficiently would the model distribute oil ownership to the Iraqi people? Second, how effective is it likely to be in encouraging individuals to support increased security and stability? And finally, how effective is it likely to be in contributing to future economic development?

THIS PAGE INTENTIONALLY LEFT BLANK

TABLE OF CONTENTS

I.	INTRODUCTION	1
II.	LITERATURE REVIEW	3
A.	IRAQ'S ECONOMY AND INFRASTRUCTURE	3
B.	PRIVATIZATION.....	8
C.	IRAQI OIL MANAGEMENT	10
D.	ALASKA PERMANENT FUND DIVIDEND.....	12
E.	COMMON PITFALLS CONFRONTING RESOURCE ABUNDANT NATIONS	15
III.	IRAQ: ON THE GROUND.....	17
A.	BACKGROUND	17
B.	A DETERIORATING SECURITY SITUATION	18
1.	Inadequate Iraqi Security Forces	19
2.	Ethnic and Religious Party Militias	20
3.	The Insurgency and Rising Ethnic and Sectarian Tensions	21
C.	CENTRAL GOVERNMENT	22
1.	Analysis of Financial Management in the Iraqi Government	26
D.	A LACK OF ECONOMIC STABILITY	31
E.	THE THREAT OF REGIONAL SPILL OVER.....	35
F.	SUMMARY	35
IV.	THE PRINCIPAL-AGENT PROBLEM IN IRAQ.....	39
V.	PRIVATIZATION IN CZECHOSLOVAKIA AND POLAND.....	41
A.	PRIVATIZATION.....	41
B.	CZECH REPUBLIC.....	42
C.	POLAND.....	44
D.	SUCCESS OR FAILURE?.....	46
VI.	DESCRIPTION OF ALTERNATIVE MODELS.....	47
A.	IRAQ'S CENTRALIZED MODEL	47
1.	Nationalization of the Oil Industry	47
2.	Centralized Control	47
3.	Key Elements.....	48
B.	REPUBLIC OF IRAQ MODEL (DRAFT LAW).....	49
1.	Background	49
2.	The Draft Law	50
3.	Key Elements.....	51
C.	ALASKA PERMANENT FUND MODEL.....	53
1.	History.....	53
2.	Qualifications.....	53
3.	Economic Effects.....	54
4.	Socio-Political Impact.....	54

5.	Natural Resource Revenue Distribution Model	55
D.	NORWAY'S "GOVERNMENT PENSION FUND – GLOBAL"	57
1.	History.....	57
2.	Key Elements.....	58
3.	Fund Operation.....	58
4.	Strategic Investment Benchmarks.....	59
5.	Economic Effects.....	59
E.	CHAD'S WORLD BANK MODEL	63
1.	History.....	63
2.	The World Bank.....	63
3.	How it Works.....	64
4.	Economic Effects.....	66
VII.	AN ANALYSIS OF THE BENEFITS AND COSTS OF ALTERNATIVE RESOURCE DISTRIBUTION MECHANISMS	69
A.	THE AUTOCRATIC CENTRAL GOVERNMENT MODEL UNDER SADDAM HUSSEIN	70
1.	Benefits.....	70
2.	Costs	71
B.	THE CURRENT (DRAFT) HYDROCARBON LEGISLATION.....	72
1.	Benefits.....	72
2.	Costs	73
C.	THE ALASKA PERMANENT FUND (APF) MODEL	74
1.	Benefits.....	74
2.	Costs	76
D.	THE NORWEGIAN MODEL	77
1.	Benefits.....	77
2.	Costs	78
E.	THE CHADIAN MODEL	79
1.	Benefits.....	79
2.	Costs	81
VIII.	FILLING THE GAPS IN THE DRAFT OIL LAW	83
A.	ANALYSIS OF THE DRAFT OIL LAW.....	83
1.	The Components	83
2.	Constitutional Issues.....	85
B.	ALTERNATIVE MODELS FOR OIL FUND MANAGEMENT.....	88
1.	Post-Invasion Oil Policy	88
2.	International Citizens Trust (ICT).....	89
3.	The International Compact with Iraq (ICI).....	90
a.	<i>Extractive Industries Transparency Initiative (EITI)</i>	91
C.	SUMMARY	94
IX.	PROJECT RECOMMENDATIONS	97
A.	ACCOUNTABILITY AND TRANSPARENCY.....	97
1.	Limitations of the Extractive Industries Transparency Initiative (EITI).....	97

2.	Limitations of the International Compact with Iraq (ICT)	
	Model.....	98
B.	PRIVATIZATION.....	99
C.	FUND LONGEVITY	100
D.	OTHER CONSTRAINTS AND IMPLEMENTATION ISSUES.....	100
X.	CONCLUSION	103
	LIST OF REFERENCES.....	105
	INITIAL DISTRIBUTION LIST	115

THIS PAGE INTENTIONALLY LEFT BLANK

LIST OF FIGURES

Figure 1.	2006 Annual Iraqi Ministry Budgets VS Actual Expenditures for Capital Goods through August 2006 (After GAO, April 2007).....	27
Figure 2.	2006 Annual Iraqi Ministry Budgets VS Actual Expenditures for Capital Goods through August 2006 (After GAO, April 2007).....	28
Figure 3.	2006 Annual Iraqi Ministry Budgets VS Actual Expenditures for Capital Projects through August 2006 (After GAO, April 2007)	29
Figure 4.	2006 Annual Iraqi Ministry Budgets VS Actual Expenditures for Capital Projects through August 2006 (After GAO, April 2007)	30
Figure 5.	Model of Resource Flows Through Iraq’s Centralized Model	49
Figure 6.	Model of Resource Flows Through the Draft Proposed Hydrocarbon Legislation.....	52
Figure 7.	Model of Resource Flows Through the APF (After Goldsmith, 2002)	57
Figure 8.	Pension Fund – Global Governance Structure (From Eriksen, 2006)	61
Figure 9.	Interaction between the Pension Fund – Global and the Fiscal Budget (From Eriksen, 2006)	62
Figure 10.	Pension Fund – Global Strategic Investment Benchmarks (From Eriksen, 2006)	63
Figure 11.	Model of Resource Flows Through the Chad Government (After Eifert, 2002, and Mobbs 2003)	66
Figure 12.	Status of Iraq’s Hydrocarbon Legislation as of July 1, 2007 (From GAO, July 17, 2007).....	84
Figure 13.	The EITI Process (From EITI, 2007).....	94

THIS PAGE INTENTIONALLY LEFT BLANK

LIST OF TABLES

Table 1.	Civil Wars Linked To Resource Wealth (After Ross, 2003)	6
Table 2.	Benefits and Costs of the Autocratic Central Government Model	71
Table 3.	Benefits and Costs of the Draft Hydrocarbon Legislation Model	73
Table 4.	Benefits and Costs of the Alaska Model	76
Table 5.	Benefits and Costs of the Norwegian Model	78
Table 6.	Benefits and Costs of the Chadian Model	81
Table 7.	The EITI Criteria (From EITI, 2007)	93

THIS PAGE INTENTIONALLY LEFT BLANK

ACKNOWLEDGMENTS

The project team would like to thank its erudite and efficient advisors, Professor Alan Laverson and Professor Francois Melese. This would not have been possible without them. Also, in the Naval Postgraduate School's Graduate School of Business and Public Policy, Professor David Henderson and Professor Phil Candreva were instrumental in their comments and kind provision of their time. Finally, in the Naval Postgraduate School's National Security Affairs department, Professor Sophal Ear provided timely and helpful commentary that contributed significantly to the outcome of the project.

THIS PAGE INTENTIONALLY LEFT BLANK

I. INTRODUCTION

This project has one primary goal: to investigate how to create a direct financial interest on the part of individual Iraqis to invest in their country's stability and reconstruction. The thesis explores the benefits and costs of alternative approaches that would guarantee private individual Iraqi ownership of that nation's oil wealth.

The study has two underlying hypotheses: First, through private ownership, individual Iraqis will have an incentive to preserve the value of their shares, resulting in a strong financial interest and demand for stability. Second, by allowing every Iraqi the ability to sell some or all of their shares, and/or to receive dividends from an oil fund, financing will be made available for entrepreneurial efforts that will help spur reconstruction. Given an adequate macroeconomic and institutional environment, the incentives derived from oil ownership could have the effect of stimulating the Iraqi economy unleashing the entrepreneurial spirit of the Iraqi people, boosting economic development, and creating even greater demand for stability by individual Iraqi citizens. Furthermore, by allowing the accumulation of shares, powerful ownership interests will arise that will insist on the protection and efficient management and operation of Iraq's oil infrastructure. The objective of this project is to identify and examine alternative ways to allocate oil ownership in such a way as to boost security and avoid the dreaded "resource curse." (Looney, 2006a)

The thesis begins with a review of the literature that provides important background information on key issues that face Iraq. Next, a thorough examination and analysis is provided of current challenges confronting the government of Iraq. This is followed by a description of the underlying principal-agent problem that faces the U.S. in inspiring all Iraqi citizens to contribute to the stability and reconstruction of their country. In order to explore ways to incentivize and encourage Iraqis to do so, the next section examines alternative methods of distributing a nation's wealth to its population. The privatization experiences of both Czechoslovakia and Poland are briefly described. These examples present two alternative approaches that could be useful if Iraq decided to

undertake similar measures. Along with a discussion of the distribution of oil revenues in Norway and Chad, Alaska's Permanent Oil Fund mechanism is introduced as a possible model for Iraq. A description of the fundamental components of these alternative wealth distribution models serves as the basis for a qualitative cost-benefit analysis.

Several criteria were developed to evaluate the proposed alternatives. These criteria were an outgrowth of three main questions asked of each alternative distribution model: First, how equitably would the model distribute oil ownership to the Iraqi people? Second, how effective is it likely to be in encouraging individuals to support increased security and stability? And finally, how effective is it likely to be in contributing to future economic development? The results of the cost-benefit analysis are used to evaluate alternative oil distribution proposals and to support several policy recommendations. These recommendations are aimed at ensuring individual Iraqis have an interest in a stable and secure society by giving them a personal stake in the successful development of their economy.

II. LITERATURE REVIEW

A. IRAQ'S ECONOMY AND INFRASTRUCTURE

Iraq's prewar economy was partly socialist (centralized ownership and control) and partly private. The private sector of the economy was informal and was characterized by subsistence farming, barter, and some forms of self-employment. The socialist side was made up of nationalized industries and a large public workforce responsible for the operation and control of those industries.

More than 60 percent of the population depended on national food rationing programs for survival. Iraq's economy was decimated by its eight-year war with Iran and twelve years of United Nations (UN) sanctions imposed after the first Gulf War in 1991. Rapid inflation occurred because Saddam Hussein continued to print money to fund national programs. Iraq's infrastructure deteriorated as a result of being ravaged by years of war and neglect. Human capital, along with the physical infrastructure, stagnated as money for education and literacy programs evaporated. (Foote et al., 2004)

Corruption and violence have had disastrous effects on Iraq's economy both before and after the second Gulf War in 2003. The Oil for Food Program reduced investment incentives in the private sector, especially in agriculture. The program led to increasingly centralized control and became a vehicle for widespread corruption by many government officials. Since the end of the second Gulf War, street crime has also become a major obstacle to overcome for private sector investment. (Brown, 2005)

For long-term reconstruction to be achieved in Iraq, an environment of economic and political stability must be created. The people of Iraq must be able to live their lives in a secure and peaceful environment. According to Looney (2006a), to reach that end state Iraq must make progress in several critical areas; they must quell the insurgency that exists throughout the country, they must build viable political institutions, and they must develop the ability to provide their own security.

Rebuilding Iraq's economy is of paramount importance. Iraq's current widespread unemployment and lack of essential services has fueled high levels of frustration among the population. The successful implementation of a market-based economy would help satisfy Iraqi's basic needs and restore faith in a new Iraq. Promoting the private sector will not only make the people greater economic stakeholders, but would likely facilitate increased cooperation with government and security forces to root out suspected insurgents. (Looney, 2006a)

The post World War II economy of Germany faced several similar problems. The substantial devaluation of the local currency and prolonged implementation of government subsidies contributed to the growth of a predominantly informal economy characterized by widespread shortages of consumer goods, rampant employee absenteeism, and barter as the primary method of trade. (Henderson, 2002)

The answer to Germany's problem was the brain child of an anti-Nazi, post-war politician, Ludwig Erhard. Erhard's three pronged solution consisted of currency reform, elimination of price controls, and a reduction of marginal tax rates. Erhard's solution was to substitute a much smaller number of new "Deutsche marks" for the previously utilized "Reich marks" and in the process the German money supply was reduced by 93 percent. This ensured that the new money had value and helped move economic transactions away from barter and back to the use of currency exchange. Following the reduction in money supply, Erhard launched a massive price decontrol program which virtually eliminated all government subsidies and paved the way for a free market economy. The result was "the reforms quickly reestablished money as the preferred medium of exchange and monetary incentives as the prime mover of economic activity" (Henderson, 2002). Soon after, shops began filling up with goods to sell and employee absenteeism dropped dramatically as people began to look for ways to earn currency and forego bartering and foraging. (Henderson, 2002)

Historically, developing countries with abundant natural resources such as oil or diamonds have underperformed many resource deficient countries in growth of per capita gross domestic product. Nations such as Nigeria, Sierra Leone, Chad, Iraq, and Ecuador are all relevant examples of how a wealth of resources does not guarantee economic

prosperity for the population. The per capita GDP of Chad and Nigeria ranks at the bottom of all oil exporting nations in sub-Saharan Africa at \$295/year and \$447/year, respectively¹ (IMF, 2007). In resource-abundant regions, political corruption and excessive military investment are common, whereas investments in education, healthcare, and other social programs are often neglected. As a result, the political environment that develops is more authoritarian and the people benefit little from their country's natural wealth. (Looney, 2006a)

According to Looney (2006a),

Situations such as these tend to create internal instability and often lead to terrorist activity and/or civil war. Seventeen civil wars during the period of 1990-2002 can be linked to a struggle for control of the nation's natural resources (see Table 1). One way Iraq can avoid this "resource curse" is to distribute its vast oil wealth equitably among the population and to facilitate the development of a viable market-based economy. With sufficient distributed private sector ownership of resources and the concurrent entrepreneurial activity, Iraq's economic growth would transform people into active shareholders instead of passive subjects of a government that controls the wealth.

¹ Using 2007 exchange rates.

Table 1. Civil Wars Linked To Resource Wealth (After Ross, 2003)

Country	Duration	Resources
Afghanistan	1978-2001	Gems, opium
Angola	1975-2002	Oil, Diamonds
Angola (Cabinda)	1975-	Oil
Burma	1949-	Timber, tin, gems, opium
Cambodia	1978-97	Timber, gems
Colombia	1984-	Oil, gold, coca
Congo, Rep.	1997	Oil
Congo, Dem. Rep.	1996-97	Copper, coltan, diamonds, gold, cobalt
Congo, Dem. Rep.	1998-	Copper, coltan, diamonds, gold, cobalt
Indonesia (Aceh)	1975-	Natural gas, marijuana
Indonesia (W Papua)	1969-	Copper, gold
Liberia	1989-96	Timber, diamonds, iron, palm oil, cocoa, coffee, marijuana, rubber, gold
Morocco	1975-	Phosphates, oil
Papua New Guinea	1988-	Copper, gold
Peru	1980-1995	Coca
Sierra Leone	1991-2000	Diamonds
Sudan	1983-	Oil

Unfortunately, developing a free market system in Iraq is not easy. Under Saddam Hussein's Baathist government, Iraq's economic resources were nationalized and tightly controlled by the government. During his oppressive regime, an informal economy developed within the country. Since his ousting in 2003, it is believed that this informal economy has continued to grow and constitutes roughly 65 to 80 percent of Iraq's current Gross Domestic Product (GDP) (Looney, 2006b).

Iraq's informal economy poses several significant problems that stymie the development of a efficient, market-based economy. First, the limited knowledge of the actual size of the informal economy impedes effective monetary policy and inflation controls. Second, the lack of transparency makes it difficult to understand the supply and demand of goods and services required to support the population. And third, informal

economies rife with criminal and black market activities can increase transaction costs, making exchanges less efficient. Add to this the uncertainty created by the insurgency and a corrupt political system currently ranked 129th out of 145 nations worldwide² and the task of turning Iraq's economy around is a tall order. (Looney, 2006b)

Reconstruction of Iraq's infrastructure was a primary objective following the coalition's swift military victory in 2003. The assumption that peace would be restored once Iraq's infrastructure was rebuilt led policy makers to pursue reconstruction for short-term aims vice sustainable long-term gains³. Much like Iraq's economy, its infrastructure was in gross disrepair following years of government neglect coupled with the prolonged effects of international sanctions. Once in place, U.S. policy makers emphasized expediency and managed major projects along short timelines. (Brown, 2005)

The reconstruction management practices failed to include local participation of key Iraqi authorities and, therefore, failed to create credibility and a sense of ownership by the local population. The newly liberated populace voiced their frustrations over the lack of essential services with blame naturally shifting to coalition forces. With many of Iraq's worst areas completely overlooked, they became easy recruiting grounds for militia groups that operate within the country. The growing insurgency and their strategic attacks on critical reconstruction targets have made rebuilding Iraq's infrastructure significantly more costly and complex. Thus, the opportunity to use the reconstruction of Iraq's infrastructure as the primary catalyst for peace largely failed. Instead, reconstruction efforts must be accompanied by economic and political reforms and a sense of ownership for peace to become a reality in Iraq. (Brown, 2005)

² As ranked by the Transparency International Corporation. The criteria were not mentioned specifically in the study referenced by Looney, but this project assumed this to mean corruption on the part of public officials such as graft, theft of public resources, and the allowance of various crimes within the official halls of government.

³ One example is not providing enough security for government ministry buildings. The U.S.' aims were to decapitate the Saddam government, then leave security to others. This posed serious problems for the State Department's Office of Reconstruction and Humanitarian Assistance personnel in quickly resuming the business of civil affairs and governance.

B. PRIVATIZATION

The transition from state owned-and-operated enterprise to private-sector ownership is commonly referred to as privatization (Park, 1998). Since Saddam Hussein's removal from power, U.S. policymakers have envisioned the privatization of Iraq's state-owned enterprises as a crucial step in Iraq's resurgence in the international community. However, the transformation of a highly centralized economy into a free-market economy involves a drastic reallocation of resources, inherent risks, and painful social ramifications.

The two widely accepted approaches to facilitate the transition of state-owned enterprise to private sector ownership are commonly referred to as the Governmental, or "gradual approach," and the market approach--also known as "Shock Therapy." Both methods were employed, in varying degrees, throughout the former communist Eastern Bloc countries following the fall of the Soviet Union in 1989. (Park, 1998)

A gradual approach takes into account the massive upheaval associated with the transition from one economic system to another. This approach attempts to avoid political and economic uncertainty by taking a more cautious and systematic course. Under this approach, the government performs basic restructuring of state-owned enterprises, determines their potential value, and offers them to potential investors. Unfortunately, this process is extremely time consuming and results in many less viable enterprises continuing to be funded by government subsidies.

Subsidies for less efficient enterprises are used to offset the social costs of the loss of essential services and widespread unemployment. The advantages of this approach are less unemployment, less bankruptcy, and minimized social upheaval. The disadvantages include the difficulty of enterprise valuation, the requirement for prolonged political stability, the time required for enterprise restructuring, and the fact that the time needed for such an approach often makes it vulnerable to anti-privatization movements. (Park, 1998)

The alternative is a market approach that places ownership rights directly into the hands of the private sector as quickly as possible. This approach operates under the

assumption that market forces will efficiently allocate resources in a free-market environment, without the need for large-scale government intervention.

Of the majority of Eastern Bloc countries that pursued this path, such as Romania, the Czech Republic, and Poland, free or minimal cost vouchers were issued to the public, who in turn used them to bid for shares of enterprises or exchanged them with an investment fund for a share of the fund. The advantages of the market approach are: there is little need for corporate restructuring by the government, no need for enterprise valuations, and there are strong entrepreneurial incentives. A disadvantage is that “shock therapy” can bankrupt inefficient enterprises and result in a significant amount of short-term unemployment. It also requires strong financial markets and strong market institutions (i.e., the definition, protection, and enforcement of property rights and contract law). (Park, 1998)

The transition of many Central and Eastern European nations to a market-based economy generated many lessons for other nations hoping to make similar changes. The primary lesson is that free market economies are not created solely by macroeconomic policy reform; they must be built upon strong institutional foundations that promote private enterprise and entrepreneurial activity.

According to Behrman et al, 2000, an effective market economy requires institutions that perform six basic functions. First, institutions must promote innovation and productivity. These institutions must allow for economic motivation yet be able to restrain unethical activities. Second, regulations and laws must be enacted and enforced that minimize corruption, and encourage competition. “The rule of law is the basic institutional structure within which free societies function and competitive markets operate.” (Behrman et al, 2000) Third, private property rights must be protected. Fourth, the freedom to pursue enterprise must exist (e.g., low costs to launch a business). Fifth, the market must be able to operate with a minimum of government interference and decisions based on market outcomes must be made freely. Lastly, competition must be allowed to flourish.

C. IRAQI OIL MANAGEMENT

Iraqi oil reserves make up 10% of all known global reserves (Vreedenburgh, 2004). Proper management of this valuable resource is critical to the country's future. Iraqi history indicates that when an unrepresentative government controls oil resources it can cause significant pain and suffering for its citizens. Therefore, the idea of distributing Iraq's most significant natural asset among its people to promote stability and reconstruction has merit. The question lies in whether a representative Iraqi government should control the oil or whether it should be distributed directly to the people. The next question is whether oil extraction/production should be privatized, essentially turning operational control over to more efficient private oil companies under the direction and control of private Iraqi shareholders.

Before a new plan for Iraqi oil management can be fully analyzed, pre-war contractual commitments must be addressed. Saddam Hussein left the country with a serious debt crisis. Several countries and corporations claim to have contracts for oil rights and claim that in order for any forthcoming plans to be legitimate, these old contracts must be resolved. The question of legitimacy is vital to the rebuilding effort and does not only involve honoring contracts, but will set the tone for a new government and the people of Iraq.

In May 2003, the newly appointed leader of Iraq's oil ministry vowed to review the legal and economic validity of all pre-war contracts in an attempt to dismiss many of them based on proving they were created only to benefit Saddam Hussein and that they were unfair to the Iraqi people. In the mean time, negotiations are being conducted in an attempt to settle these contracts and maintain legitimacy for possible future negotiations. The decision to honor or invalidate these contracts could take a good deal of time to resolve and could play a large role in the decision to privatize. (Vreedenburgh, 2004)

In 2005, the newly elected leaders of Iraq constructed a constitution and adopted its use by referendum. This constitution directly states that,

Oil and gas is the property of all the Iraqi people in all regions and provinces." (Article 109) "The Federal Government will administer oil

and gas extracted from current fields in cooperation with the governments of the producing regions and provinces on condition that the revenues will be distributed fairly in a manner compatible with the demographic distribution all over the country. (Article 110)

This clearly lays the groundwork for implementing revenue-sharing proposals. The problem is that much is left to interpretation and, based on who does the interpreting, it provides the opportunity for corruption.

One plan that has been proposed, allegedly based on these articles, clearly favors northern Kurdish and southern Shi'a provinces (where there are many oil rich fields), while ignoring the central region of Iraq or Sunni population (where there are no oil fields). This may be the case intentionally since the Sunnis were part of the ruling elite when Saddam was in power, or simply because it is felt that revenues should benefit the areas where oil is extracted. Either way, it appears that this proposal does not satisfy the spirit intended in the constitution. (Kasaev, 2007)

Although it is not getting much media attention, Iraqi oil continues to be extracted and sold. It is true that the oil fields have come under intense fire from insurgency forces; estimates suggest that \$11.4 billion was lost due to these attacks. However, extraction has steadily increased from a low of 185,000 barrels per day to the current level of 2.06 million barrels per day. In comparison, pre-war levels averaged 3 million barrels per day. (Kasaev, 2007)

It is difficult to determine where the oil is going at this point but there are exports to Turkey, France, and possibly to several other countries. According to the head of the Cambridge Energy Research Association (CERA), "the system of foreign investments and the private sector in [Iraq's] oil industry remains vague. In the absence of a clear-cut contractual system of investments, Iraq can export 30 to 40 percent less oil than before the war" (Kasaev, 2007). It is critical to work out the issues involved in this industry as soon as possible.

Popularity is growing for a program that distributes revenues to citizens, as well as to the provinces. Such a program would give power to citizens in promoting economic growth, allow a sense of ownership in the new political process, reduce regional criticism

of the government due to increased transparency, and ensure fair distribution of funds. This program needs to be well defined with clear policies run by a responsible organization that is obliged to publish all transactions for review. It would need to be highly transparent and accountable in order to be trusted by the population and to minimize corruption.

The Extractive Industries Transparency Initiative has proposed “revenue transparency procedures” that could facilitate the program. Outside assistance, however, should only be provided if requested by the Iraqi people. No program will succeed if it is forced upon them by outsiders; therefore, it is imperative that they are given every opportunity to create their own system of distributing revenues. (Palley, 2004) One possible model is the Alaska Permanent (Oil) Fund.

D. ALASKA PERMANENT FUND DIVIDEND

Established by legislative action in 1976, the Alaska Permanent Fund (APF) sets aside a portion of oil revenues generated from the public ownership of the state’s natural resources, invests them in financial instruments, then distributes the cash dividends to the citizens of Alaska. Approximately 25 percent of all royalties and income earned are invested into a professionally managed fund which consists of various income-producing investments.

Distributions from the APF are allocated equally among the 600,000 permanent residents of the state. Since its inception a little over 20 years ago, the principal portion of the APF has grown from a modest \$137 million in 1979, past \$1 billion by 1988, to its current value of \$30 billion (Goldsmith, 2002). The fund’s principal is constitutionally protected, with withdrawals from the fund’s principal requiring a two-thirds vote by the legislature and a majority popular vote.

The distributions to Alaska’s citizens are made from the income generated by the fund’s investments. Most recently, each citizen has received an annual stipend of approximately \$1,000 during the past 5 years; this equates to about 6 percent of an average household’s annual income. (Goldsmith, 2002)

The primary objectives for the creation of the APF have been to acknowledge the inevitable depletion of Alaska's oil resources and to keep politicians from squandering oil revenues on wasteful government projects. By converting natural oil resources into renewable financial ones, the revenue generated from these mineral resources will benefit current and future generations of Alaskans.

The citizens' mistrust of local politicians was exacerbated when the first \$900 million dollar payment received by the government from private oil companies for the initial lease of drilling rights seemed to have vanished overnight. Alaska's then Governor Jay Hammond responded to the public outcry by championing the Permanent Dividend Fund legislation. (Anderson, 2002)

Several factors have been vital to the fund's success. A powerful constituency developed from the citizen's sense of ownership. It was initially created as a response to curb wasteful spending. Investments in stocks and bonds insulated the fund from the local political arena. The fund is managed by a corporation focused on maximizing earnings and is independent from the state. State personal income taxes were eliminated and were replaced with an annual stipend for permanent residents. (Goldsmith, 2002)

The APF has had numerous effects on Alaska's economic, political, and social systems. One of the more dramatic economic effects is that the population of Alaska has one of the most equitable income distributions in the country. According to Goldsmith (2002),

Data reported by the Economic Policy Institute [shows] that in the last 10 years, the income of the poorest fifth of Alaska families increased 28 percent, compared to a 7 percent increase for the richest fifth. In contrast, for the entire United States over the same period, the increase for the poorest fifth was 12 percent compared to 26 percent for the richest fifth.

Politically, the fund has such a strong backing that any politician who suggests a reduction in benefits is committing "political suicide." Socially, many of Alaska's younger citizens have grown up only receiving money from the government vice paying taxes and do not appreciate the reasons for it. Moreover, it is feared that many Alaskans have become preoccupied with consumption and are failing to invest for the future. It is

thought that the APF has also had a drastic effect on population immigration into Alaska and has reduced natural emigration, as well. (Goldsmith, 2002)

Developed out of political mistrust, the APF has become self-binding. First, the fund is heavily protected by the state constitution and is removed from political budget competition and pork-barrel legislation. Second, the trust is protected by its citizens and is revocable only if the entire electorate votes to abolish it. Third, the fund's principal is protected from spending and is further bolstered by inflation-proofing methods. Fourth, the independent board of trustees and the APF Corporation's pursuit of earnings, in contrast to any political agenda, create another level of protection. Lastly, and perhaps most importantly, the APF is protected by the fact that every Alaskan has become an active stakeholder in the program. (Anderson, 2002)

On the surface, it would appear that the APF has been an economic success for the citizens of Alaska. But has it? Could the revenues generated have been better applied to social projects and programs?

Alaska's economy is highly reflective of many other resource-abundant economies throughout the world. A large majority of state revenues, approximately 85 percent, is derived from oil, but the industry itself only employs a small fraction of the population. Alaska's government revenue is substantially undiversified and its fortunes are heavily tied to the unpredictable fluctuations of the global market for crude oil. The heavy reliance on a single commodity as the primary source of government spending has subjected Alaska to periods of feast and famine.

This boom and bust cycle has created financial instability within the Alaskan government with respect to the planning and funding of public projects and programs. Critics have argued that the original purpose of the APF was to be a state savings account, with the intent of offsetting drastic fluctuations within the global petroleum market. What evolved has caused the citizens of Alaska to view the dividend as an entitlement and an important supplement to their income. Afraid of the political backlash,

politicians have succumbed to their constituency and Alaska has denied itself the ability to counter the boom and bust cycle of its resource-dependent economy. (Brown et al, 1994)

E. COMMON PITFALLS CONFRONTING RESOURCE ABUNDANT NATIONS

Because Iraq possesses significant oil reserves, many people believe that its natural resources are the key to its future. Although it may be true that Iraq's oil wealth will be vital to its economic development, policy makers must be wary of the fact that economic success due to resource abundance is far from automatic. Of the 65 nations classified as rich in natural resources, only four have been able to attain significant per-capita GDP growth in excess of 4 percent from 1970 to 1998, and successful long-term investment as reflected by GDP growth during the same period. (Gylfason, 2000)

Iraq itself has not thrived since its discovery of oil. Most recently, oil revenues have been used to support a ruthless dictator's whims that included wars with neighboring countries and internal travesties committed against innocent citizens. In fact, the country suffered from a serious debt load and the majority of its citizens lived well below poverty levels. Now that Saddam Hussein is gone, it is important for Iraqis to exploit this resource for the benefit of the population. However, Iraq continues to sacrifice opportunities in a world that is driving towards less dependence on oil, which could result in sacrificing future revenues. (Chalabi, 2004)

According to Thorvaldur Gylfason (2000), the four common economic pitfalls that most affect resource rich countries are: the "resource curse," rent seeking behavior, overconfidence, and the failure to invest in human capital. The resource curse is related to the so-called "Dutch disease." This describes a phenomenon whereby excessive revenues and spending generated from a nation's natural resources leads to inflated wages and prices that, in turn, impact a country's non oil-related industries. This makes other goods and services less competitive, placing negative pressure on exports of other goods and services, ultimately reducing trade.

Another common theme among resource-rich countries is that there is a tendency for rent-seeking behavior to breed corruption between businesses and the government (Gylfason, 2000). This occurs when individuals and organizations attempt to make money by manipulating weak economic and legal policies instead of generating profit from trade or other forms of wealth creation. Furthermore, resource-rich countries commonly exhibit a sense of overconfidence in their economy and future prospects, leading to overspending. Finally, many countries, either by neglect or by choice, fail to invest in human capital (education) or critical infrastructure.

In conclusion, for Iraq to truly benefit over the long term from their abundant natural resources the lessons learned from other resource-rich nations must be heeded or Iraq will find itself repeating those same mistakes. The most important lesson is to ensure that each Iraqi citizen has an ownership stake in guaranteeing the successful exploitation and development of their valuable exhaustible resource. (Gylfason, 2000)

III. IRAQ: ON THE GROUND

A. BACKGROUND

On March 20, 2003, a coalition of U.S. and allied forces invaded the nation of Iraq, seeking to depose its dictator, Saddam Hussein. On May 1, 2003, President Bush landed aboard the USS Abraham Lincoln and declared an end to major combat operations in Iraq; behind him was displayed a banner which read, “Mission Accomplished.” In August 2003, the Coalition Provisional Authority (CPA) dissolved the military organizations of Hussein’s former regime, including the Ministry of Defense (MOD). In March 2004, the CPA helped establish a new MOD. The MOD was assigned responsibility for overall management, direction, and control of the Iraqi armed forces, which now includes the Iraqi Army, Air Force, and Navy. The MOD is expected to conduct all functions needed to sustain the armed forces and an estimated 200,000 civil servants and military personnel. It is also expected to develop plans, programs, and budgets and procure goods needed to support the current Iraqi government, the Republic of Iraq. (GAO, March 2007)

It was not long after the President declared an end to major combat operations before a very real threat materialized in Iraq. The threat came in the form of an active insurgency, seeking to foment chaos and shed the blood of coalition members and innocent civilians in an attempt to incite civil war. Unfortunately, the U.S. reconstruction effort was predicated on the assumption that coalition members would be received as liberators and that a secure and stable environment would exist. Adding to the climate of chaos, as the security situation in Iraq deteriorated, it became more difficult to improve the oil and electricity infrastructure that required substantial repairs and modernization due to the previous regime’s neglect, international sanctions, and years of conflict, looting, and vandalism. (GAO, May 2007) Though the CPA ceded authority to the provisional Iraqi government on 28 June 2004, the U.S. retains formal control of the Multi-national Force Iraq (MNF-I) which exerts limited informal influence over policies of the newly independent government (Jane’s: Internal Affairs, 2007).

The critical issues now confronting the Iraqi people have at times seemed overwhelming. The key issues addressed by this analysis are: a lack of general security in many areas of Iraq, including an active insurgency and ethnic and sectarian tensions; a weak central government; and, a lack of private investment and economic development. The discussion of these key issues will synthesize several recent reports, including those of the Government Accountability Office (GAO), in order to offer an analysis of the critical issues that form barriers to government effectiveness and limit its ability to help resolve problems and provide basic services. This analysis relies heavily on the GAO's extensive writing in this area, as it contains broad, cross-cutting audit work along the three prongs of the U.S. national security policy strategy in Iraq—internal security and political and economic stability. (GAO, January 2007).

In evaluating alternatives and making recommendations regarding the distribution of oil revenues, this analysis should be useful in aligning the interests of the Iraqi people to support greater security and investment. The implementation of these recommendations could create economic incentives that lead to a sense of ownership that result in citizens' self-interest in preserving security in order to benefit from increased oil wealth. Accordingly, it is reasonable to think these incentives could align the interests of the people with the stability and reconstruction interests of the government of the Republic of Iraq. In turn, this would result in: a diminishing need for the U.S.-led MNF-I to provide, organize, and/or train large security forces; a boost in private domestic and foreign investment in key infrastructure; and, an increasingly stable and secure Iraq.

B. A DETERIORATING SECURITY SITUATION

The problems currently confronting the Republic of Iraq and the MNF-I are many and complicated--not the least of which is the deteriorating security situation. Poor security conditions exist in spite of the \$15.4 billion U.S. program to help develop and sustain Iraqi security forces. Although the State Department has reported an increase in the number of Iraqi army and police forces trained and equipped from about 174,000 in July 2005 to approximately 323,000 in December 2006, violence continues and the security situation continues to be difficult to manage. The average number of adversary

attacks increased from about 70 per day in January 2006 to a record high of about 180 per day in October 2006, the worst month yet. In December 2006, attacks averaged approximately 160 per day. Sectarian and militia elements in the Iraqi security forces added to the brutality. This environment continues to endanger human resources, inhibit investment and economic growth, and places critical infrastructure at risk (GAO, May 2007). These factors help explain the difficulty Iraq has in negotiating with coalition partners and in making political and economic progress in such an extremely unstable environment (GAO, April 2007)

There has also been a significant death toll among Iraqi civilians in the four years the war has been fought, although the exact number is open to debate. ORB, a British polling agency cited by the Los Angeles Times (Susman, 2007), has put that figure at more than 1.2 million. This number was arrived at by asking 1,461 adults, “How many members of your household, if any, have died as a result of the conflict in Iraq since 2003?” Based on Iraq’s estimated number of households (4,050,597), ORB says the figure carries a margin of error of 2.4 percent. According to ORB, nearly one in two households in Baghdad suffered at least one death as a result of the war, 22 percent of households suffered at least one fatality nationwide, and, it is said 48 percent of the victims were a result of gunshot wounds and 20 percent died as a result of car bombs. Other explosions and military bombings were blamed for most of the other fatalities. Both the Iraqi government and the U.S. have stated independent groups greatly exaggerate estimates of civilian casualties. (Susman, 2007) Whatever the exact figure, it is obvious Iraqi civilians have a great deal at stake in seeing a sustainable cessation in the level of violence.

1. Inadequate Iraqi Security Forces

In 2003 the Iraqi MOD announced a new plan to establish a primarily defensive military with a strength of about 40,000, and to place it under civilian control. Other security forces were also formed to assist in the stabilization of Iraq; primarily the Iraqi National Guard that was created in June 2004, formed from remnants of the old Civil Defense Corps. In May 2007, the Iraqi security services numbered 348,000 personnel.

These include 198,200 Ministry of Interior personnel, composed of Iraqi Police Services (IPS) and other forces such as the IPS Special Commando, Civil Intervention Force, and armored and specialized battalions. There are also 154,550 Ministry of Defense personnel, including the Army and National Guard, the Air Force, and the Navy. (Jane's: Executive Summary, 2007)

The reconstitution of Iraq's security forces has not proceeded as well as hoped. The reliability and effectiveness of newly formed military units has been questioned, as Iraqi soldiers have been reluctant to act against fellow Iraqis. Performance of the National Guard has been uneven across units. Though these forces are increasingly capable of taking over local security in many parts of Iraq, the key question is whether they will function as loyalists to the federal government or are, in fact, disguised sectarian and factional militias?

When supported by the MNF-I, the Iraqi Army is growing into a relatively coherent force that can be counted upon to support government objectives. However, at the local level, IPS is often as much a part of the problem as it is the solution, due to its local recruitment by factional leaders in provincial governments. (Jane's: Executive Summary, 2007) Furthermore, government security forces still owe their primary allegiance to their constituent sectarian and factional blocks. This limits the government's ability to construct the multi-ethnic security and police forces required to detect, preempt, and disentangle sectarian clashes at the local level. In fact, many Iraqi security forces actively refuse to respond to orders given them that would cause them to operate outside the regional areas in which they were recruited. (Jane's: Security, 2007)

2. Ethnic and Religious Party Militias

Iraq is a land awash with small arms, heavy weapons, and explosives of all types. Citizens are allowed to own and keep a single assault rifle, usually an AK-47. The country is crosscut by strong sectarian and tribal-factional loyalties. Accordingly, it is understandable the country is dotted with sectarian and neighborhood militias. Elements of local and tribal communities from all sectarian blocs remain fiercely protective of their local autonomy, as they were under Saddam Hussein. (Jane's: Security, 2007)

The fate of ethnic and religious party militias seemed to have been decided by the CPA in March 2004. U.S. and Iraqi officials reported the leaders of the two largest militias in Iraq had conditionally decided to disperse their members. The Badr Corps and the Kurdish Peshmerga forces were offered a chance to work for official Iraqi government forces or were to be allowed to claim considerable retirement payments as incentives to disarm and disband. Currently, U.S. officials have also said members of smaller militia groups will be allowed to petition for jobs with the new security forces, but those choosing otherwise will be confronted and, if necessary, forced to give up their weapons. As of August 2006, the only militias targeted (setting aside Sunni Arab insurgent groups) were Muqtada al-Sadr's Jaish al-Mahdi and the Fadhila party's Oil Protection Force. (Jane's: Executive Summary, 2007)

Though Prime Minister al-Maliki promised to move forward on the disbandment of militias, as of this writing, no signs of progress in disarmament, demobilization, and rehabilitation have been seen. No long-lasting solution to the problem of militias has been found, save perhaps to recruit as many militia members as possible into the security forces in order to gain some control over their movements, pay, and, hopefully, their loyalties. (Jane's: Security, 2007)

3. The Insurgency and Rising Ethnic and Sectarian Tensions

The key threat is a Sunni insurgency that targets the Shia and U.S.-led MNF-I. Without a strong counter-terrorist strategy and political agreement between Sunni and Shia parties, this insurgency has the potential to throw Iraq into a civil war. Despite growing evidence of reconciliation between the government and Sunni insurgents, the government of the Republic of Iraq, headed by Prime Minister Nouri al-Maliki, is faced with serious internal violence driven by a complex mesh of sectarian and factional drivers. (Jane's: Executive Summary, 2007)

The types of violence include sectarian, factional, and criminal violence, often occurring at high levels. The key driver for these high levels of violent incidents is growing factional infighting by political groups of the same religion and ethnicity, especially in the Shia south. Communal tensions at the neighborhood level are a critical

element of the problem that national politics has been unable to address. Violent incidents have fueled further attacks, leading to vendettas and revenge attacks. (Jane's: Security, 2007)

Sectarian killings have been blamed for an increasing “Balkanization” of Iraq, as once multi-ethnic communities flee to common neighborhoods--a homogenizing effect that is a result of the migration caused by sustained sectarian killings. This exacerbates the potential for the type of ethnic self-annexation that was seen in the Balkans. In any given month, over half of the bodies entering the Baghdad morgue are killed by execution-style gunshot wounds, which have been interpreted as increasing “block warfare” at the communal, neighborhood level. (Jane's: Security, 2007)

The greatest insurgent threat remains in multi-ethnic areas such as Baghdad, its surrounding provinces, and the Sunni-Kurdish swath that borders the zone of the Kurdistan Regional Government. The Sunni Arab community, once the governing ethnic community under the Saddam Hussein-led Baath party, has had considerable trouble reconciling itself with its new status as a demographic and political minority. Finally, foreign fighters and a professional Iraqi insurgent population have settled in for a protracted campaign of nationwide and regional terrorist attacks. It is thought that large scale car bombings, assassinations, kidnappings, and attacks on critical infrastructure will continue throughout the current decade. (Jane's: Security, 2007)

C. CENTRAL GOVERNMENT

The central government in Iraq has relatively little power, is highly dependent on oil and foreign assistance, and enjoys no monopoly on force. The fabric of Iraqi society is under attack from criminal elements, perhaps largely due to a lack of economic opportunity, and is threatened by sectarian violence. The government of the Republic of Iraq lacks any easy, near-term solutions to any of its problems. (Jane's: Security, 2007). One challenging, but possibly fruitful solution investigated in this study is for the central government to distribute Iraq's oil wealth to make every Iraqi citizen an owner of a share of the oil.

A transitional political process completed in December 2005, resulted in the first constitutionally-elected government of the post-Saddam era. However, Iraq's new government does not benefit from sufficient support to craft effective solutions to simultaneously resolve serious security and socio-economic problems. Currently, the Iraqi government has met three, partly met four, and did not meet eleven of its eighteen benchmarks, resulting from commitments first announced by the government of Iraq in June 2006 (GAO, September 2007). The legislative agenda has progressed through the nation's parliament at a very slow pace, with intensive and time-consuming committee work required to achieve consensus before each new step. (Jane's: Executive Summary, 2007)

At the very outset, the government of the Republic of Iraq faced problems caused by a lack of management and human resource skills in key ministries of the government. Under the old regime, high-level ministerial officials were political appointees of Saddam Hussein, aligned with the Baath party. Once Hussein was ousted, members of the Baath party were not allowed to continue in service.

Over 30,000 party officials were released from the civil service. Washington watchers interpreted this as a victory for the Pentagon in its ongoing battle with the CIA and State Department, which favored a more limited purge (Jane's: Internal Affairs, 2007). This created an immediate and vast deficiency in areas related to public administration, financial management, and government services in general, to include security. Moreover, irreconcilable Baathist former regime elements have recently been blamed for fomenting and facilitating anti-coalition and anti-government activities in the Sunni areas of Iraq (Jane's: Security, 2007). Many Iraqi civil servants that remain are inadequately trained or are lacking in requisite skills. (GAO, April 2007)

This lack of trained, loyal, and competent personnel is not limited to the various ministries. The lack of qualified staff and expertise extends to the electric and oil plants and into the fields in which they operate. This has led to difficulty in operating and maintaining the plants and refineries that fuel critical infrastructure, and it hampers coalition attempts to contribute to restructuring and rehabilitation efforts. Moreover, due to a lack of an inventory control system for spare parts, oil production and exports have

consistently fallen below key program goals. This contributes to the theft and smuggling of oil and its refined products, a significant loss for Iraqi citizens. (GAO, April 2007)

Worse still, many high-level ministerial officials in the present-day administration represent political parties that are unresponsive to, or who openly oppose, the U.S. and its goals for Iraq. Political and sectarian affiliations continually jeopardize the ministries' ability to provide basic services and build credibility with the people of Iraq. (GAO, April 2007) The result is that U.S. and Iraqi security ministries are supporting Iraqi forces that have divided loyalties, varying degrees of capability, high absenteeism, and questionable dependability (GAO, March 2007).

Due to the pressing priorities of security and politics, the Iraqi government has not been able to directly tackle Iraq's economic problems. This has had the effect of encouraging oil smuggling by perpetuating a subsidized fuel system, discouraging auditing, and deepening corruption, all of which are serious problems in Iraq (Jane's: Economy, 2007). In fact, the Iraqi government was ranked as the second most corrupt in the world by Transparency International in its 2006 world powers survey. Given the underdeveloped state of many Iraqi governmental institutions, this ranking is no surprise.

According to the GAO, the government lacks the necessary programs to fight corruption in part due to ineffective and inadequately resourced accountability institutions, such as the Board of Supreme Audit, the Commission on Public Integrity, and the Inspector General of the Ministries. (GAO, May 2007) These organizations have been systematically prevented from bringing corruption cases to trial by three Iraqi prime ministers since 2004, each of which reinstated the Saddam-era Article 136(b) of the Criminal Procedures Code (which stipulates no case can be tried concerning something done in the ordinary course of duty without permission of the minister of the affected agency). This article had been suspended by CPA administrator Paul Bremer in January 2004 to allow corruption investigations to begin. (Jane's: Economy, 2007)

In 2006, the World Bank and the Inspector General to the Iraqi Ministry of Oil estimated millions of dollars of government resources are lost annually due to oil smuggling or theft of refined products. The State Department has reported 10 to 30

percent of refined fuels are sold on the black market or smuggled out of the country for personal profit. Inadequate metering, injection, corruption, theft, and sabotage account for approximately \$1.8 to \$5.5 billion per year (GAO, July 2007). The State Department believes government officials have also profited from these activities. Worst still, the U.S. Embassy has documents in its custody stating the insurgency has been at least partly supported by profits from smuggled oil products sold on the black market in Iraq. (GAO, May 2007)

A lack of modern technology has also had a big impact on resource management efforts, and it contributes to the government's continuing lack of ability to control corruption. Iraq's banking system is mostly ineffective and leaves the government dependent on cash-based transactions with which to discharge its obligations. The Ministry of Interior relies on manual systems with hand-written ledgers and a payroll system reliant on cash payments. Some Iraqi police have even been seen leaving their posts to deliver cash to their families. At any given time, the DoD estimates one-third of all Iraqi soldiers are on leave for the purpose of returning home to provide money to their families (GAO, March 13, 2007). U.S. officials estimate 20 to 30 percent of Ministry of the Interior personnel are "ghost employees." These are, essentially, people who do not exist. Their salaries are paid only to be collected by other governmental executives. This level of corruption jeopardizes future international assistance and undermines the government's ability to make effective use of current reconstruction assistance. (GAO, April 2007)

Adding to the problems of funding flows caused by corruption is the government's apparent inability to spend its capital budgets effectively and efficiently. This inability to expend money (and expend it appropriately) raises serious questions for the government and creates skepticism on the part of its stakeholders that it can improve basic services and make a difference in their daily lives (GAO, March 22, 2007). The issues that affect the government's ability to effect positive change will be broken down and analyzed below.

1. Analysis of Financial Management in the Iraqi Government

An interesting limitation in the government's ability to help resolve Iraq's problems is its incapacity to execute its budgets for capital goods and public projects in a timely manner. Using data provided by the GAO (GAO, April 2007), a breakdown of the Iraqi government's budget executions is illustrated in Figures 1 – 4. Noting the Iraqi fiscal year begins on 1 January, these charts reflect approximately 8 months worth of budget execution data. From a U.S. government budget analyst's perspective, the figures are fairly staggering. In the case of 2006 capital goods expenditures (Figures 1 and 2), only one ministry's budget is more than 50 percent expended, two-thirds of the way into the fiscal year. As budgets are normally considered representative of a nation's public policy, it is interesting to note this is for the Ministry of Justice, at 66.7 percent expended.

The next highest ministry's percentage of expenditure is "Others," at 28.31 percent. The third highest is the Ministry of Oil, at 20 percent, especially noteworthy given Iraq mostly relies on degraded and obsolete equipment to extract the oil that provides a majority of the nation's financial resources (GAO, February 2007). From there, the percentages of budgets expended descend into the tens and single digits.

For a nation struggling to restore its physical infrastructure, security, and to establish itself as a legitimate government, these numbers, perhaps, speak volumes about the government's ability to sustain itself. This is reflected in the staggering figure reported for the Iraqi Ministry of Defense. Eight months into the fiscal year, only about 1 percent of its capital goods budget was expended for weapons, ammunition, and vehicles.

Figure 1. 2006 Annual Iraqi Ministry Budgets VS Actual Expenditures for Capital Goods through August 2006 (After GAO, April 2007)

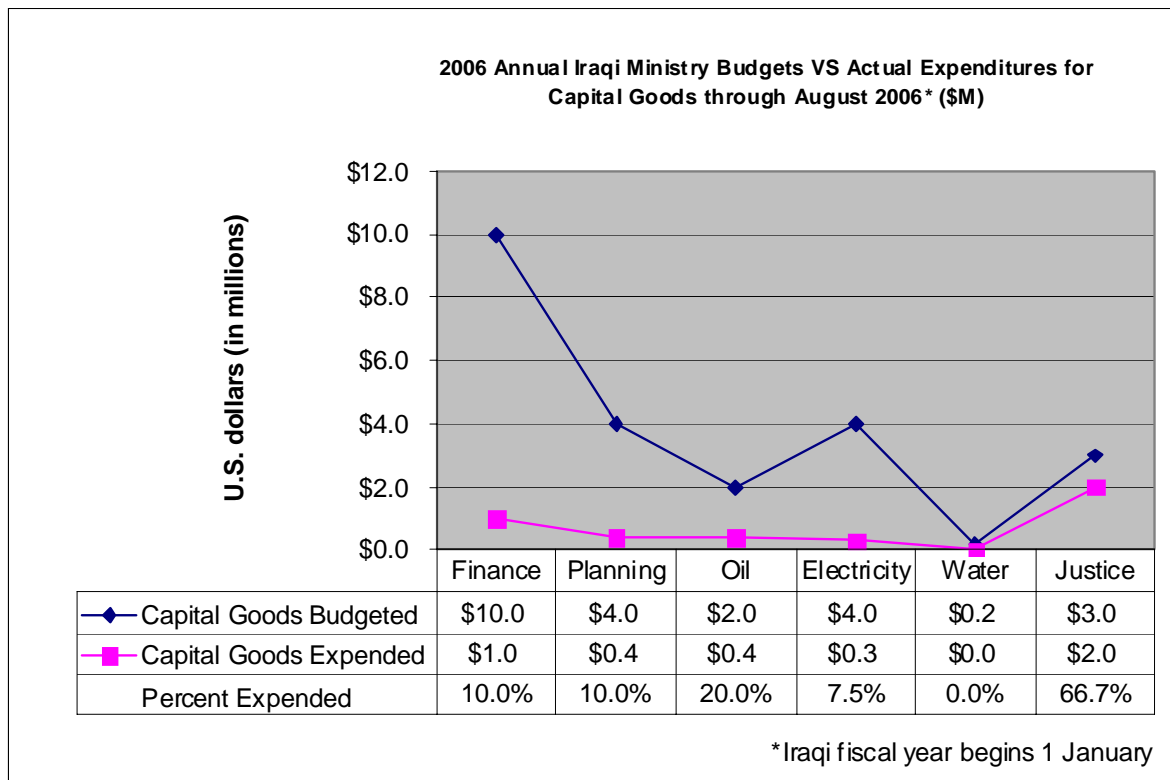
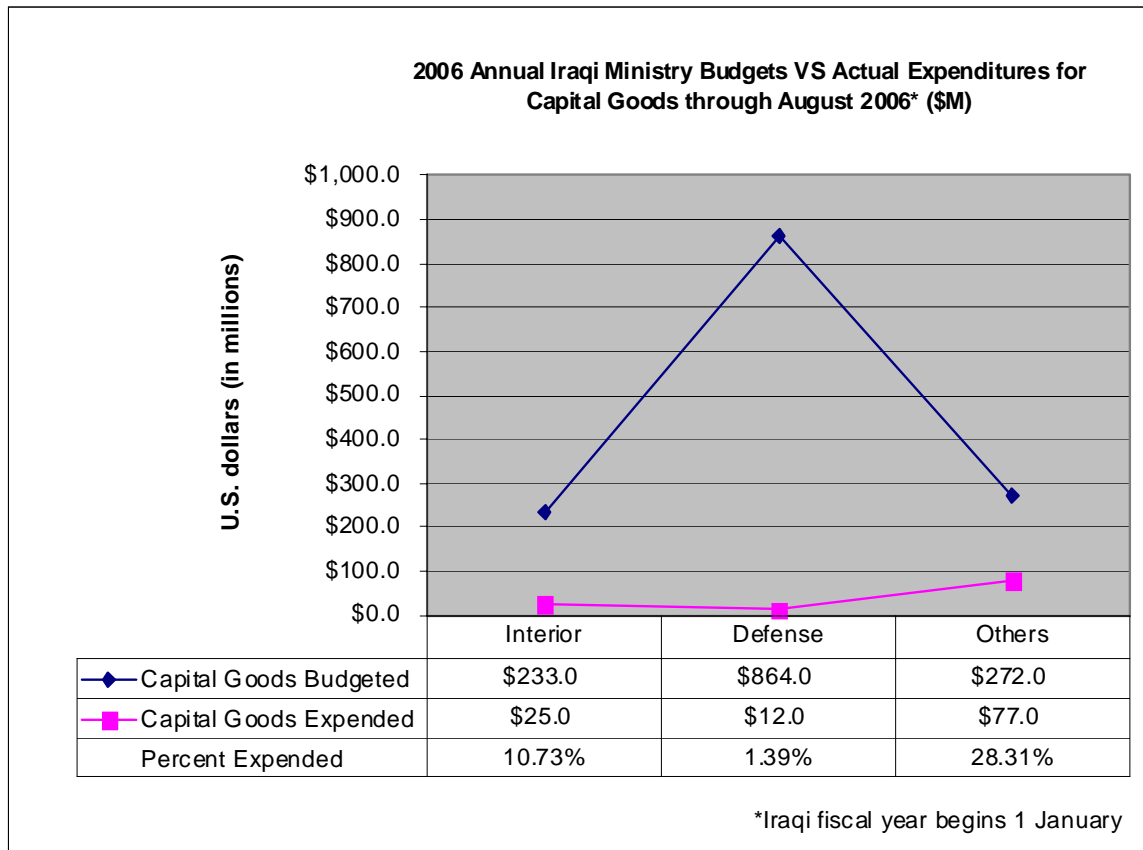


Figure 2. 2006 Annual Iraqi Ministry Budgets VS Actual Expenditures for Capital Goods through August 2006 (After GAO, April 2007)



Moving on to ministerial budgets expended for capital projects through August 2006 (Figures 3 and 4), the Ministry of Finance spent over twice its allotted budget (224 percent expended). Of all ministerial budgets documented by the GAO, the next highest capital projects budget expended is the Ministry of Electricity at only 34.81 percent, which was identified as one of the key infrastructure projects being undertaken by the MNF-I and the U.S. The third highest ministry's budget expenditure percentage is "Others," the fourth is the Ministry of Water at 24.5 percent, and then ministry expenditures decline precipitously into single digit percentages. (GAO, March 22, 2007)

Figure 3. 2006 Annual Iraqi Ministry Budgets VS Actual Expenditures for Capital Projects through August 2006 (After GAO, April 2007)

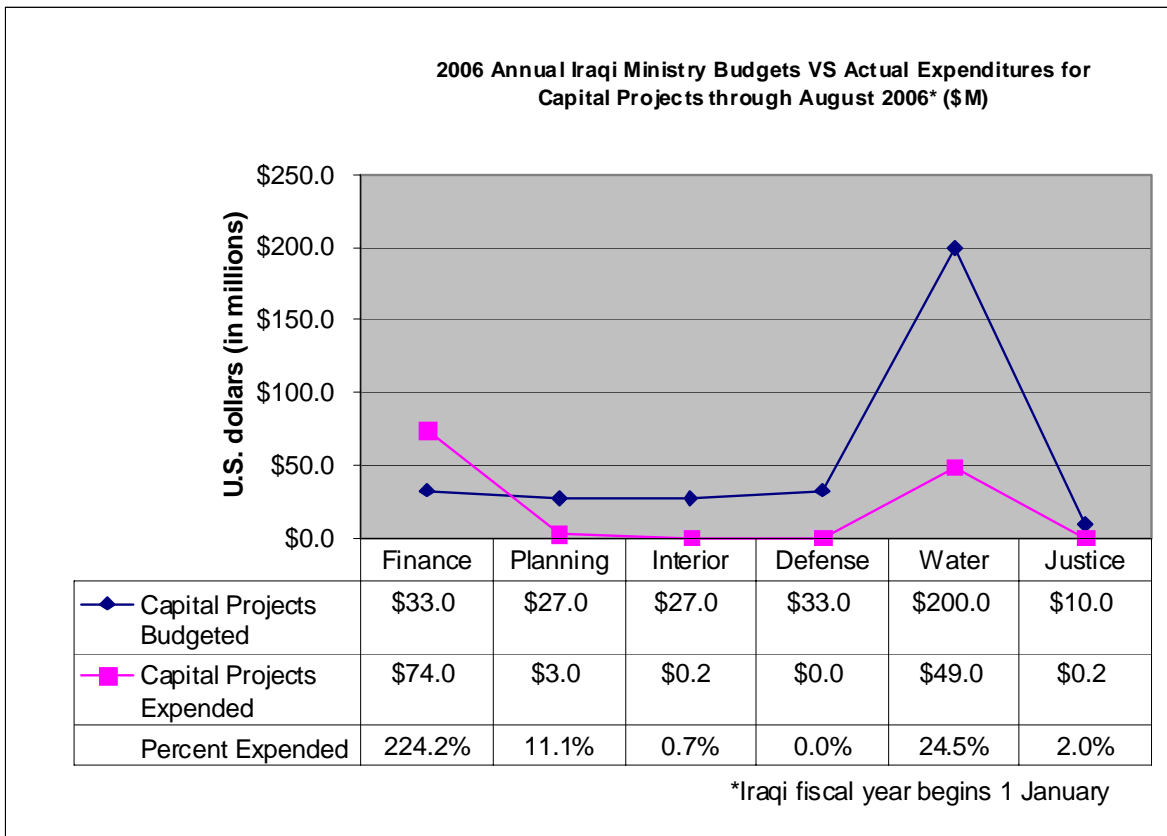
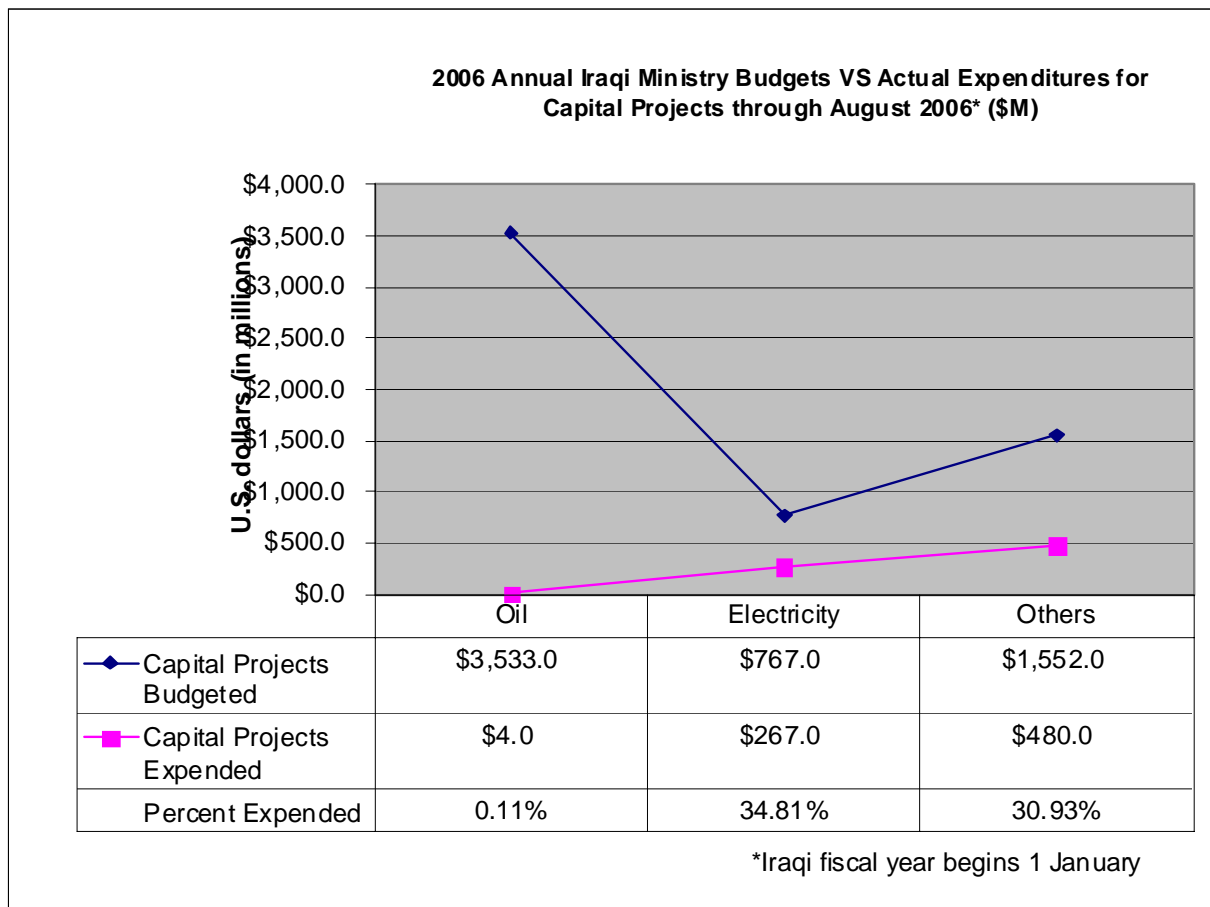


Figure 4. 2006 Annual Iraqi Ministry Budgets VS Actual Expenditures for Capital Projects through August 2006 (After GAO, April 2007)



One consequence of the budget-execution problems in Iraq is a lack of clean drinking water. Due to the collapse of Iraq's water and sewerage system in September 2004, there was an outbreak of a virulent strain of hepatitis in and around Baghdad. Over 215 cases were diagnosed, suspected to be only a fraction of the actual cases caused by sewage-contaminated drinking water. (Jane's: Demography, 2007)

According to the GAO (March 22, 2007), dismal documented expenditure rates are also a result of unclear budgeting and procurement rules. Combined with multiple rules and regulations promulgated under the former regime, the CPA, and the current government, this has created a perfect storm of opportunity for corruption and mismanagement.

In any true democracy, the legitimacy and authority of the government can only come from the will and consent of the governed. The risk is that Iraqi citizens grow ever more frustrated and disillusioned with their government, leading to gains in the insurrection's legitimacy and power. GAO reports document the limited ability of the government to effectively procure critically required equipment and infrastructure, to enter into contracts, and to make the necessary payments that would ensure government obligations are worth the paper on which they are printed. This is unfortunate, as the ability to support reconstruction is a key component of an active and effective counter-insurgency (Jane's: Economy, 2007). To date, the Iraqi government has over \$10 billion in reconstruction funds available, and it is unclear how, when or if they will be spent (GAO, September 2007).

Further hampering the government is its lack of information management, technology, and data-processing capabilities. This contributes materially to difficulties in acquiring, distributing, and maintaining weapons, vehicles, and equipment. In answer to this, the U.S.-led coalition has provided significant resources to help develop Iraq's security forces and has 215 military and civilian advisors supporting the ministries.

The U.S. recently signed a foreign military sales (FMS) agreement with Iraq that, according to U.S. personnel, allows Iraq to bypass its ineffective procurement systems to purchase equipment directly from the U.S. Iraq has deposited \$1.9 billion into its FMS account. (GAO, March 22, 2007) However, given the factors listed throughout this discussion, it is unclear whether or not this will fix the problem since Iraq does not possess effective institutions, procedures, and processes necessary to execute this plan. Unless and until effective control measures are put in place, these efforts will most likely continue to be stymied by corruption, intimidation, misappropriation of resources, and competing political and sectarian priorities.

D. A LACK OF ECONOMIC STABILITY

It is clear budgets in Iraq have become little more than an annual wish-list. As capacity building has stalled and even been reversed in key institutions, budgets have become gradually harder to pass. The 2007 budget passed two months after the 31

December 2006 deadline set out in the Financial Management Law. Institutional paralysis in the short-term appears to be more than a security problem. Bottlenecks, such as inconsistent reporting procedures between ministries, use of spending instructions that differ by ministry and province, misappropriation of allocated funds, and poor maintenance of cash ledgers, would persist under even normal conditions. However, spending capacity is not uniformly weak. Recurrent spending, which is relatively simple to budget and does not require long lead times, is stronger. This reflects the bias in the economy towards subsidized food rations, pensions, employment, wages, salaries, and agricultural subsidies. (Jane's: Economy, 2007)

While Iraq has made significant progress in price liberalization, subsidies on several key goods such as food, fuel, electricity, and other utilities are very large, adding up to as much as 50 percent or more of GDP. In the future, Iraq will be under pressure to make painful cuts to domestic fuel and utilities subsidies, and food rations. In addition, the Iraqi pension system is financially unsustainable, inefficient, and inequitable. Current financing mechanisms can impose large costs on employers and discourage job creation. (Jane's: Economy, 2007)

When the New Iraqi Dinar was introduced in 2003, the newly independent Central Bank of Iraq tried to stabilize the exchange rate and arrest inflation. The policy instruments utilized were foreign exchange auctions, reserve requirements, overdraft facilities for banks, and other lending facilities. The Central Bank tried to promote efficient short-term management of liquid instruments by financial institutions and to implement the central bank's stated monetary policies.

The policy's success is measured by some intermediate variables which include the yield curve, rate of growth of the money supply, and the rate of exchange. An efficient payment system and reduction of excessive reserves were key goals. Using foreign exchange auctions, the New Iraqi Dinar was successfully introduced, resulting in a stable exchange rate. Foreign banks were allowed to open branches and to engage in joint ventures with private Iraqi banks. The capital base of private banks was also increased. Initially, inflation decreased from around 70 percent to as little as 25 percent in

2004. Since then, however, inflation has begun to creep back up to levels resembling the Baathist era. This leads to a continuing challenge for the Central Bank and Iraqi government. (Jane's: Economy, 2007)

The Iraqi government's revenues are largely derived from oil receipts, with a small share of revenue coming from income and excise taxes, interest on unspent government oil wealth, revenue from state-owned enterprises, and a plethora of usury charges and fees. Foreign direct investment is not yet a significant factor in Iraq's formal economy. In contrast, oil accounts for some 66 percent of the economy, so export volumes are critical.

Though exports have decreased to around 1.6M barrels per day (bpd), from an April 2004 high of 1.8M bpd, Iraq still nets approximately \$2.75 - \$3B per month due to currently high oil prices. Importantly, very strong surpluses of unspent oil receipts gives the economy a cushion, but also reveals that a key constraint is spending capacity, not revenue generation. (Jane's: Economy, 2007)

Until the issues of Iraqi debt restructuring and compensation payments are resolved, Iraq is unlikely to regain full control of its fiscal affairs. This has important implications for the financing of capital projects. A significant overhang of public debt, most of which was created during the devastating Hussein era, creates a drag on the government's budget and on the economy.

Significant budgetary breathing space could be created by canceling some of the debt Iraq owes, which is currently estimated at between \$78 and \$89 billion. The debt, which experts believe could be reduced to approximately \$53.5 billion, based conditionally on its ability to meet certain targets, is estimated at more than 300% of Iraq's gross domestic product. Up to \$7 billion of the debt is owed to private Iraqi citizens. (Jane's: Economy, 2007). Iraq's main creditors will not write off debts until they see progress on national reconciliation, economic reform, and a reduction of violence (Jane's: External Affairs, 2007).

According to Robert Looney (2006b), many problems in the current Iraqi economy are a result of fundamental supply and demand factors in the labor market. One

of the factors Looney documented is a bulging youth population that is underserved by the country's education system. In addition, there is a considerable lack of employment training and opportunities. Accordingly, Iraq is well behind nearby Arab nations in its investment in human resources, and it lacks the educated, skilled workers required for vibrant private sector expansion of formal markets. While there are venerable state employment programs that provide incentives for public sector employment, few exist in the private sector, which sees little growth due to recent instability. The first official postwar look at joblessness from the Iraqi Central Statistical Office reported 28 percent unemployment for Iraq in October 2003 (Foote et al., 2004).

There is also a deficiency in social capital, specifically a lack of trust regarding property rights and contract law, which confines most transactions in the private sector to nontaxable informal market exchanges. As the formal economy increasingly lacks the ability to provide incomes to households, economic pressure increases the need to resort to informal activities and shadow-economic practices such as drug trafficking, prostitution, and the like. Looney claims adding these factors to the hostility, lawlessness, and concerns over future instability, has undermined the confidence of investors and prevented "market-driven mechanisms" from playing their predicted role in the days following attempted market reforms installed by the CPA. (Looney, 2006b)

While it is relatively easy to measure economic impacts, qualitative human impacts are harder to measure. There may also be a direct correlation between the level of violence and how Iraqis assess their economic conditions.

Foote et al., (2004) document that polls taken from the Iraqi Central Statistical Office reflect measurably higher levels of violence in areas in which economic and labor-related opportunities were the most bleak. One discouraged and unemployed man from Sadr City (a poor, predominately Shia area of Baghdad) was quoted as saying, "I haven't been working at all for the last two weeks. If I stay like this for another week my family will starve, and if someone comes along with \$50 and asks me to toss a grenade at the Americans, I'll do it with pleasure." (Banerjee and Cushman, 2003, as cited by Foote et al., 2004)

E. THE THREAT OF REGIONAL SPILL OVER

It is thought that if the security situation in Iraq suffers a major deterioration, or if the central government of Iraq dissolves at some future point, the resulting power vacuum might suck in regional states such as Turkey and Iran and present a risk to the territorial integrity of the country. Most certainly, Iraq will be the jihadist theater of choice for as long as the U.S. maintains a significant presence. (Jane's: Executive Summary, 2007)

Until multi-national forces are drawn down to insignificant numbers, Iraq offers jihadists an unparalleled opportunity to experience what is perceived as a legitimate defensive jihad in a foreign land against the U.S. military. There are growing indicators that Iraq is being consciously used as an incubator for jihadists and that such fighters are being sent to neighboring states and perhaps beyond, to foment hostility and unrest. In this context, Saudi Arabia, Kuwait, Syria, and Jordan are in particular peril. The issue of inbound and outbound jihadists will continue to further complicate Iraq's regional relations. (Jane's: Executive Summary, 2007)

F. SUMMARY

This chapter synthesized key developments discussed in several recent publications, including those reported by the Government Accountability Office (GAO). The analysis indicates that the critical issues that form barriers to Iraqi government effectiveness and limit its ability to make public investment, develop fundamental market institutions, and provide basic public services are: (1) a lack of general security in many areas of Iraq, including an active insurgency and rising ethnic and sectarian tensions; (2) a weak central government; and (3) a lack of private investment and economic development.

This analysis should be useful in evaluating alternatives and in making recommendations, including the possibility of privatizing state-owned oil resources and distributing oil revenue to the citizens of Iraq. The implementation of these recommendations could create economic incentives that would lead to a sense of ownership, resulting in citizens' increased interest in preserving security in order to

benefit from increased oil wealth. It is reasonable to think these incentives could align the interests of the people with the interests of the government of the Republic of Iraq—assuming their objective is to promote stability and reconstruction.

The result of giving every Iraqi citizen a direct financial stake in the oil would be: a diminishing need for the U.S.-led MNF-I to provide, organize, and/or train large security forces; carefully monitored investments in infrastructure; and incentives to prevent destruction of the factors of oil production as Iraqi citizens found themselves bound together in their common interest to preserve and expand their new-found wealth. The end result would hopefully be an increasingly stable and secure Iraq.

The risk to Iraqis, to the region, and to the U.S. and its allies that would result from Iraq as a failed state is too large to be ignored. Though the issues confronted by Iraq have at times seemed overwhelming, this thesis proposes that if there is to be a long-run solution, it must be one that is effective at the grass-roots level. In simple terms, this means there must be consensus by the people that the solutions being proposed by local leaders actually address their concerns.

Hamre and Sullivan (2002) have speculated that the four distinct yet interrelated categories of tasks that must be addressed in post-conflict reconstruction are: security, justice and reconciliation, social and economic well-being, and governance and participation. After an initial analysis of the problems facing modern day Iraq and a thorough analysis of several alternative methods other nations have implemented to distribute natural resource wealth, a set of recommendations will be presented that attempt to address many of the social and economic concerns of the Iraqi people.

Given Iraq's history of large government subsidies and a strong, dictatorial central government, the recommendations presented here could serve as one possible way to alleviate public burdens and economic distortions caused by excessive government handouts, and illuminate ways to create real value for Iraqi citizens as they become shareholders of the world's second largest known oil reserves. This project's hypothesis is that by satisfying these economic and social concerns, efforts toward the other three pillars, security, justice and reconciliation, and governance and participation, will be

greatly buoyed as the Iraqi people increasingly see it as in their interest to become part of the process, to actively combat the insurrection, and to demand increased transparency in government activities. The privatization experience of Czechoslovakia and Poland will be described next in order to illustrate how some Eastern Bloc countries privatized formerly state-owned enterprises.

THIS PAGE INTENTIONALLY LEFT BLANK

IV. THE PRINCIPAL-AGENT PROBLEM IN IRAQ

The “principal-agent problem” is an idea developed for use in political science and economics. It concerns identifying ways to align the interests of one party closely enough with another so they are motivated to act on their behalf. The problem arises in evaluating different incentive mechanisms the principal might use to compensate the agent for tasks that are valuable to the principal, but that are costly for the agent, and where it is difficult for the principal to observe the effort of the agent and to gauge the ultimate outcome of the relationship. It is often seen in contractual relationships that exist under conditions of information asymmetry, risk, and uncertainty. When this occurs, the principal cannot be assured the agent has acted on his or her behalf, and to what extent, or even if, the contract has been executed. Thus, the principal must provide incentives to the agent to ensure this is so. According to game theory, the principal-agent problem involves changing the rules of the game so that rational and self-interested choices made by the agent are aligned with the desires of the principal. (Eisenhardt, 1989)

The principal-agent problem in Iraq revolves around the fact the U.S. (the “principal”) wants to extricate itself from the occupation of Iraq, but only under conditions that ensure stability and economic opportunity for Iraqi citizens (the “agents”). The ideal for the U.S. would be to find a solution to this Principal-Agent problem that motivates individual Iraqi citizens (the agents) to choose for themselves behavior that will foster greater security and stability for their families and for the future of their country. The following descriptions of the privatization of Eastern Bloc countries (Chapter V) and descriptions of alternative oil revenue distribution models (Chapter VI) are illustrations of some of the solutions to principal-agent problems implemented by other nations in the past. Many nations dealt directly with their principal-agent problems through the distribution of previously publicly-held resources directly to the people, and some, at their peril, ignored their principal-agent problems.

A qualitative cost-benefit analysis conducted in Chapter VII offers an analysis of these alternative models that is used to support several recommendations. Moreover, it

serves as an instructive and cautionary case analysis for policy makers working in the area of stabilization and reconstruction—especially with respect to the nation of Iraq.

Later, in Chapter VIII, an in-depth analysis is provided of the draft Iraqi hydrocarbon legislation currently being debated in the Iraqi parliament. This legislation has been criticized for many of its perceived weaknesses, chief among them that it is vague, incomplete, and is interpreted in widely varying ways. Another key concern is that the draft oil law will provide oil revenues to the regions on a per-capita basis. This analysis will show that the draft oil law will leave many disenfranchised, based on where they live, and could, therefore, serve as a flashpoint for those who are not included. Thus, the draft oil law offers an incomplete solution to the principal-agent problem in Iraq.

Finally, in the recommendations chapter of the project, Chapter IX, some critical analyses of several options for oil fund management similar to those provided in Chapter VIII will be offered as possible alternatives. This will lead to specific recommendations that illustrate the types of economic incentives that must be implemented, or avoided, to best help the nation of Iraq solve the principal-agent problem.

V. PRIVATIZATION IN CZECHOSLOVAKIA AND POLAND

A. PRIVATIZATION

It is important to understand that privatization in the context of this paper relates to the transfer of government controlled assets to private ownership and operation. The liberation of Iraq has created an opportunity to privatize many state owned assets from telecommunications to its vast oil reserves. However, as a number of other countries have learned, privatization is not a simple process. Secular tension and the lack of stability add to the difficulties Iraq faces. Still there are important lessons to be learned from the experience of other countries.

Several aspects of privatization need to be considered prior to implementation. Determining the appropriate vehicle to implement a privatization effort is obviously of great importance. Of major concern are questions such as: whether government enterprises will be distributed to citizens for a fee or for free; determining who qualifies as a citizen; and whether or not foreign investors can participate? Another concern involves the transparency of the selected privatization process. This step is important in gaining the support of the public. Programs should avoid being overly complex or secretive to avoid questions of legitimacy. Information should be relatively easy to access or acquire for anyone with a need to know (Shafik, 1993). Finally, the timeframe or speed with which privatization should be completed is important. A government must be prepared to administer a massive undertaking in implementing a privatization or revenue sharing plan. In many privatizations the judicial system, contract law, stock markets, etc. are not well established, therefore much work needs to be done to prepare for full privatization. (World Bank, 1999)

As stated earlier, the two widely accepted approaches to facilitate the conversion of state-owned enterprises to private sector ownership are commonly referred to as the Governmental, or “gradual approach,” and the market approach--also known as “Shock Therapy” (Pohl & Claessens, 1997). Studying other privatization efforts, even where not all of the conditions are similar to those found in Iraq, can still provide helpful insights to

increase the likelihood of success, We begin by looking at the voucher program implemented in the Czech Republic, followed by an examination of the investment fund program utilized by Poland. A broad discussion and evaluation of these experiences concludes this section.

B. CZECH REPUBLIC

In Czechoslovakia, the state-owned command economy controlled up to 98% of all businesses prior to its collapse (Shafik, 1993.) The fall of communism opened the door to a shift to a free market. The need to privatize nearly the entire economy raised concerns as to whether the strategy should focus on quick reform causing short-term pain, but perhaps a shorter recovery period, or slow reform causing less short-term problems but risking a longer recovery. While there was much debate about which method would be best, the quick reform alternative was implemented in early 1991. (Megginson & Netter, 2001)

In order to implement this aggressive transfer of assets, it was important first to set goals to be achieved by the privatization. According to Megginson and Netter (2001) these were to: first, gain support from the public for privatization; second, transfer ownership from the state to the private sector; third, improve economic performance, efficiency, and control of privatized companies themselves; and finally, prevent foreign domination of the process. To achieve these goals it was necessary to gain the support of citizens. It was believed that this was critical to ensuring successful privatizations. The plan used to gain this support consisted of three parts: restitution, small business public auctions, and large business public vouchers. (World Bank, 1999)

Restitution refers to returning property to prior owners if that property had been seized by force since 1948. This amounted to nearly 100,000 residences and 20,000 businesses (such as service and trade companies) being returned. Small business public auctions were, just as the name suggests, the auctioning of smaller state-owned businesses, which were open to all citizens. However, most of these were purchased by the same management that profited from them during communist control. Finally, the large business public voucher privatization effort consisted of different stages of voucher

offerings that could be used to purchase shares of a single company or a block of companies similar to a mutual fund. (Shafik, 1995)

The voucher system went through several proposals and transformations before final implementation. Proposals ranged from issuing free vouchers to citizens to offering vouchers for sale worldwide. The final plan allowed citizens over the age of 18 to purchase a voucher booklet worth 1,000 points for what amounted to the average weekly wage in the country. The purpose of the fee was to compensate for the cost associated with managing the new voucher program. Citizens would then register their vouchers at one of the state registration centers, allowing them to exchange their vouchers for shares of state-owned companies that were simultaneously being converted to private companies. (Leeds, 1993)

Many restrictions were placed on foreign investors to prevent them from easily acquiring crucial state assets during the discounted sell off, although some concessions were made for some “strategic” foreign multinationals. Foreign investment was invited from Volkswagen, Philip Morris, Proctor and Gamble, and General Motors. These companies were required to establish long-term goals for their investments, helping to establish public confidence in their commitments. (Leeds, 1993)

Viewed in hindsight the voucher privatization plan implemented by the Czech Republic achieved varying levels of success. Compared to its initial goals, the plan successfully gained support for privatization by the public, which resulted in a rapid transformation of the command economy into a market economy.

However, the process did little to improve the performance of some companies due to soft budget constraints and not enough incentives to restructure the newly organized businesses. This is a significant concern since it is widely expected an important part of privatization is that private companies are run more efficiently than government programs. Finally, the Czech Republic was successful in preventing foreign entities from dominating the process, keeping foreign ownership to less than three percent of the whole. However, evidence suggests foreign direct investment is one of the best ways to kick-start any economy. Today every successful economy in the world is

actively competing to attract foreign direct investment (Megginson & Netter, 2001). Therefore, while the intentions of the plan were designed to protect citizen's rights and opportunities, the growth of the country's economy suffered as a result.

Megginson and Netter (2001) also detailed the main goals of privatization as explained by Prince Waterhouse Coopers as: first, raise available state funds through ownership transfer; second, improve economic efficiency of privatized industries; third, reduce government involvement in the economy; fourth, broaden the ownership structure; fifth, create competition; and, finally, transition from a state-owned to a free-market structure. By these standards, the government's only real shortfall was the lack of focus on raising available state funds. However, by shifting focus away from the generation of state funds, the government made several positive changes, such as increasing the amount of foreign investment allowed, that has since benefited the economy. (World Bank, 1999)

While the Czech privatization was successful in accomplishing most of its original goals, the perception after the fact is that it did not provide the economic miracle many expected. The Czech Republic benefited from having some valuable assets, being located in close proximity to some of the larger Western markets, and the fact that it had a tradition of free enterprise dating back prior to 1945 (Goldstein, 1997.) Many neighboring countries achieved similar successes through different means. Poland is one such country, and is the subject of the next analysis.

C. POLAND

Poland was in a different situation than the Czech Republic when they began their privatization efforts. Over 50% of all retail trade, consumer and service firms were already in private hands. The Polish government chose gradual privatization over the relatively quick approach taken by the Czech Republic. (Vinton, 1993)

Poland's plan included five major privatization programs: Capital or commercialization, direct, coupon or voucher, small-scale, and complementary methods. These programs followed the more traditional methods of privatization that favor the sale of shares to foreign and domestic investors. (Vinton, 1993)

Capital privatization entailed selling companies through initial public offerings. During the initial phase of capital privatization, the government kept majority ownership until the second phase when negotiations could take place with the new majority shareholders.

Direct privatization simply involved selling off small to medium sized businesses with no financial problems, mostly to current employee or management teams. Buyers were offered a low lease rate to accommodate such takeovers.

The “coupon or voucher privatization” was only a small part of the Polish plan and was not nearly as involved as the Czech system. Mainly this plan was designed to reassure citizens that privatization was in their best interest. “Small-scale privatization” involved the quick sell-off of small retail and service companies. These again were usually sold to previous employees below market value. (Pohl & Claessens, 1997)

Finally, the “complementary methods” of privatization were used to solve issues with companies that needed restructuring or that were going to have to go through bankruptcy or liquidation. The state did not collect revenue for these costly undertakings. (Tattum, 1995)

Poland had several areas of concern for their privatization process. As stated above, many of the initiatives favored purchases by insiders since they were the only ones that understood the potential and current state of the company. The gradual privatization process hurt many organizations that had to endure the wait. In many cases the government could not expedite the transfer of assets to private shareholders quickly enough to allow for future planning. Other problems involved the government maintaining majority control of companies long after initial privatization. This was again part of the gradual implementation plan. However, it slowed economic development and efficiency improvements that are critical to ensuring successful privatization. Another concern involved the limited voucher plan that only included 10% of state assets being made available for purchase by the public under this program. (Tattum, 1995)

D. SUCCESS OR FAILURE?

Measuring the degree of success or failure of a privatization program is a difficult task given the number of variables involved, many of which are difficult to control. Goldstein (1997) states that the success or failure of privatizations can be predicted based on information available in academic financial intermediation literature. The difficulty then is whether the government can successfully help to: first, reorient the population's view of property rights; second, encourage a wealth-generating mindset; and, finally, build basic financial institutions to support new financial markets. The stability of a country implementing such reforms is critical (Lipton, Sachs, & Summers, 1990). The Czech Republic benefited from a solid foundation of diversified assets, a rapid implementation plan, and a mix of national and international investors. Poland, on the other hand, chose a slow transition, to restructure companies prior to privatization, and ultimately created less total revenue for the government. (Megginson & Netter, 2001)

Despite following different paths, privatization helped each country to successfully transition from a state-owned command economy to a market economy, although not without problems. The Czech Republic's rapid approach overlooked many transparency and accountability issues such as fraud, looting, and price gouging (Goldstein, 1997). Poland's slow approach suffered from high unemployment and below average economic growth, as industries were forced to endure the drawn-out process (Vinton, 1993.) There is no way to name a clear-cut winner between the voucher system employed by Poland and the voucher program of the Czech Republic considering both began the process under different circumstances. Both programs did a respectable job in accomplishing the goals set prior to privatization. Neither expected the process to be easy and both still have legitimate concerns to contend with today. (Pohl & Claessens, 1997)

VI. DESCRIPTION OF ALTERNATIVE MODELS

A. IRAQ'S CENTRALIZED MODEL

1. Nationalization of the Oil Industry

The nationalization of the Iraqi oil industry in the early 1970s was a widely supported movement that gave the central government direct control over the nation's primary source of revenue--oil (Cummins, 2007). At the time, many Iraqis felt they were being unfairly exploited by foreign oil companies operating within their country, and were glad to see the industry finally come under Iraqi control.

Concurrent with the nationalization of Iraq's oil industry was the OPEC led rise in the price of oil and political unrest within Iran. The culmination of these events resulted in substantial increases in oil exports from Iraq; oil revenues during this period grew from \$1 billion in 1971 to over \$26 billion by 1980. (Alnaswari, 2001) More recently, according to the Heritage Foundation, "The U.S. General Accounting Office (GAO) estimates the Saddam Hussein regime generated \$10.1 billion in illegal revenues by exploiting the Oil-for-Food program, including \$5.7 billion from oil smuggling and \$4.4 billion in illicit surcharges on oil sales and after-sales charges on suppliers." (Gardiner, 2004)

2. Centralized Control

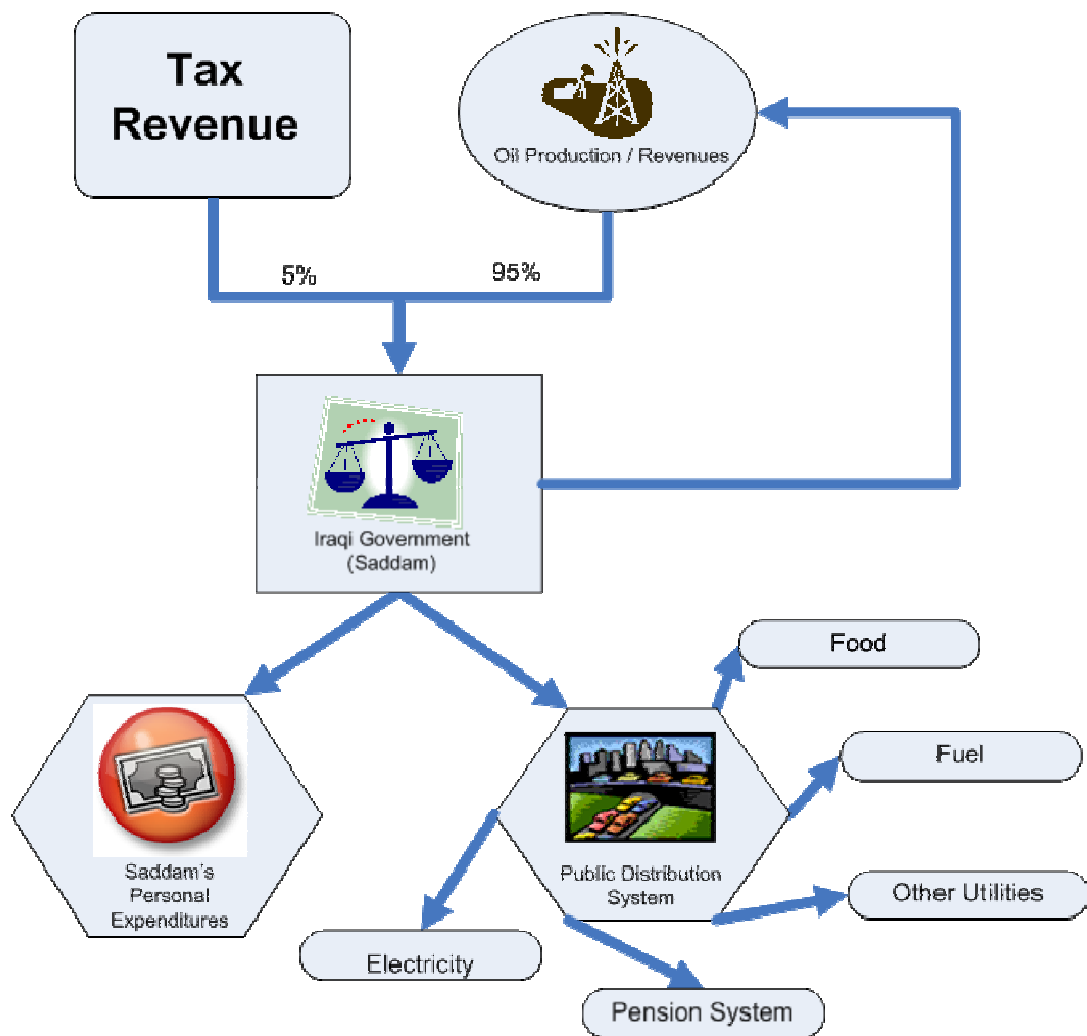
During the 1970s, Iraq entered a period of relative prosperity. The economic system, however, developed an irreversible dependence on revenues generated from the oil industry. Oil income to the state quickly supplanted the government's reliance on tax revenues generated from its citizens. The government, "no longer needing its citizens to collect taxes to finance state activities" (Alnaswari, 2001), was able to allocate the nation's new found wealth as they saw fit. Under this highly centralized system, oil revenues flowed into state coffers primarily from overseas sales of state owned oil, and

the state subsequently invested those funds in agriculture, state industries, education, healthcare, social services, the military, and other programs. (Alnaswari, 2001)

3. Key Elements

There are several key elements to consider regarding Iraq's centralized model (see Figure 5). First, political power remained in the hands of a few ruling elites. Second, virtually all of the nation's wealth was in the form of oil and was completely under central government control. Moreover, the government's lack of reliance upon its population to generate tax revenues diminished the government's accountability and responsibility to its people. The combination of these elements allowed Saddam Hussein and his regime to transform the government into a dictatorship and exert widespread control over the country and its economy. Having led Iraq into several disastrous wars, Hussein's actions ultimately bankrupted the nation. Combined with prolonged economic sanctions Hussein's actions had devastating effects on Iraq's economic system and infrastructure. The catastrophic series of events which have befallen Iraq over the last 30 years is not dissimilar to the "natural resource curse" which afflicts many other resource rich nations throughout the world.

Figure 5. Model of Resource Flows Through Iraq's Centralized Model



B. REPUBLIC OF IRAQ MODEL (DRAFT LAW)

1. Background

Saddam Hussein's removal from power in the spring of 2003 was the culmination of Operation Enduring Freedom. This period marked an end to major combat operations and the formation of the Coalition Provisional Authority (CPA). The role of the CPA was

to act as a government caretaker until a newly formed Iraqi government could be established. During this time, a “de-Baathification” process was conducted by the CPA to remove any remnants of Saddam’s ruling party from government service. The CPA was then replaced by the Iraqi Interim Government and subsequently the Iraqi Transitional Government. The first permanent government of Iraq took power on 20 May 2006.

2. The Draft Law

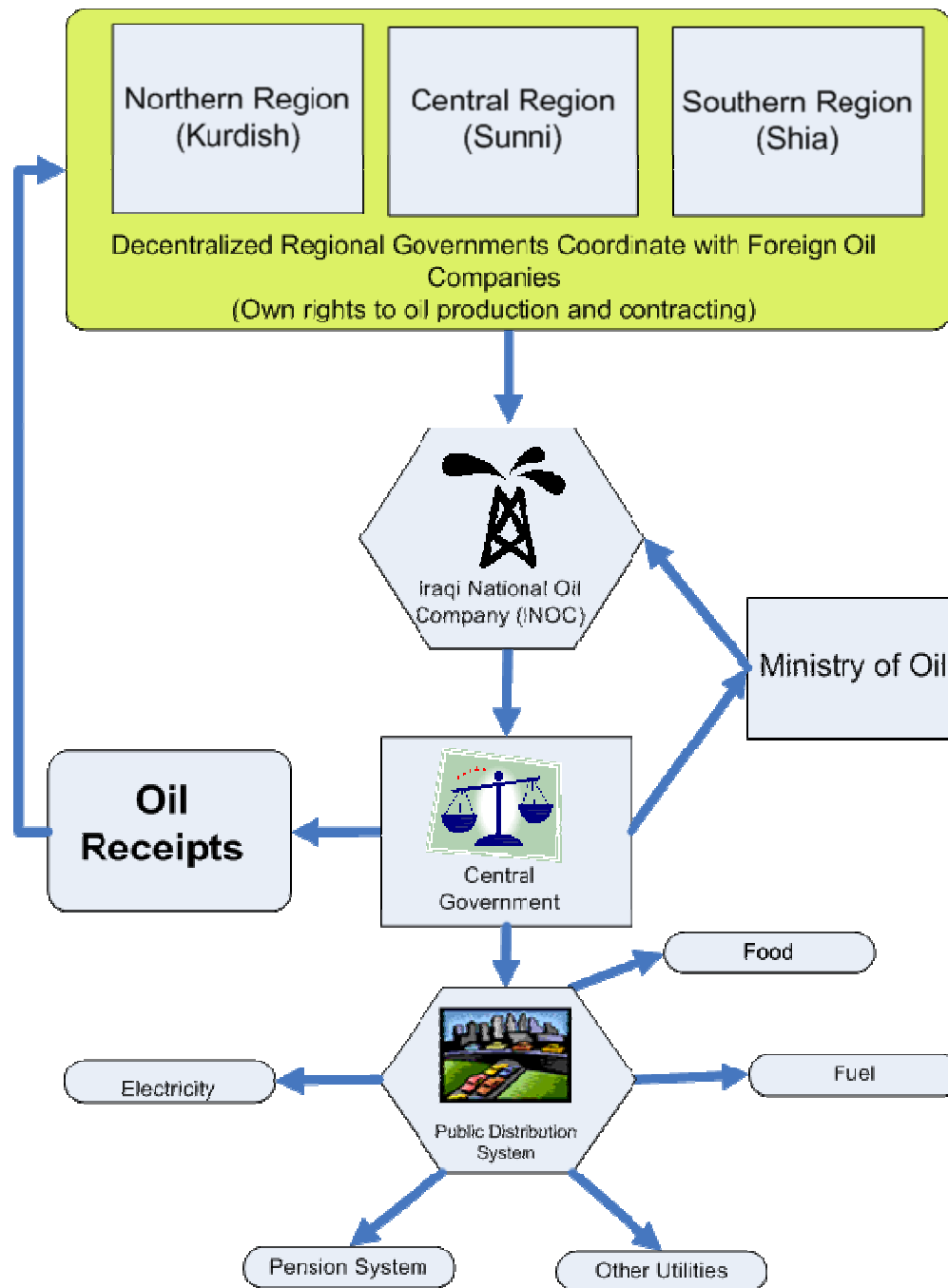
Building upon the principles established by the Iraqi Constitution, a draft law outlining Iraq’s official oil and gas policy is currently being debated within Iraq’s Council of Representatives. The two most applicable sections of the Constitution are Article (110) which states: “Oil and gas is the property of all the Iraqi people in all the regions and provinces” and Article (111): “The federal government will administer oil and gas extracted from current fields in cooperation with the governments of the producing regions and provinces on condition that the revenues will be distributed fairly in a manner compatible with the demographical distribution all over the country.” (Republic of Iraq, 2005)

Iraq’s hydrocarbons law has been purposefully left vague in many areas so as to appease many of the opposing factions within the legislature. As it stands, the current draft of the oil and gas policy attempts to establish three key principles. First, the central government will retain control over the distribution of oil receipts amongst the regions and ensure a fair and equitable distribution based on the population of those regions. Second, the law calls for a de-centralization of the development of the oil industry. The Ministry of Oil’s role will primarily be administrative and focus on the continued development of federal policy. The role of the new Iraq National Oil Company will be to manage and operate all producing oil fields, pipelines and terminals. Third, the law grants regional governments the ability to enter into exploratory and developmental contracts with foreign oil companies pending federal government approval. (Jane’s, 2007) The fundamental change from the previous regime appears to be a shift from central government ownership and control to regional ownership and control, with some central government oversight.

3. Key Elements

The current draft law strongly favors the interests of the Kurdish and Shia factions within the government for several reasons. A majority of Iraq's known oil reserves are located in the Kurdish controlled north and in the predominantly Shia south. The Sunni minority is primarily located in the center of the country and controls virtually no oil or gas reserves. Moreover, the Sunni faction lacked representation in the initial development of the draft law, due in part to many Sunni's having once been members of Saddam Hussein's Baathist party (see Figure 6). (Kasaev, 2007)

Figure 6. Model of Resource Flows Through the Draft Proposed Hydrocarbon Legislation



Another important aspect of the current Iraqi model is that many questions remain unanswered. Although the Constitution and the draft law stipulate a “fair and equitable distribution” of oil receipts to the regions based on a per capita basis, it doesn’t describe specifically how much will be distributed or for what purposes. Furthermore, given the paucity of census data for Iraq’s regions, it is not clear how the central government is going to ensure this fair and equitable distribution. It is also unclear how the government will divide the revenues from newly developed fields or deal with foreign participation. “How will taxes and royalties be collected?” (Cummins, 2007)

According to Susman (2007),

The draft law represents a key benchmark in the Iraqi government’s ability to overcome sectarian divisions, but the fact that it remains in deliberation close to a year after its introduction is a stark reminder of how far there is yet to go, particularly when considering that many policy and operational specifics have not been identified.

C. ALASKA PERMANENT FUND MODEL

1. History

The Alaska Permanent Fund (APF) was established in 1976. The primary reason for its creation was to preserve the benefits of limited natural oil resources for future citizens of the state of Alaska and to transform it into a more fungible resource, namely cash. A secondary reason for establishing the APF “...was to keep oil revenues away from the politicians who, it was feared, would spend it on wasteful government operations.” (Goldsmith, 2002) With the flow of oil beginning in 1977, the fund grew at a rapid pace and exceeded \$26.5 billion at the turn of the millennium.

2. Qualifications

After some initial growing pains, the dividend calculations have remained predominantly fixed since 1983. Simply stated, the dividend formula pays out approximately 25 percent of the annual realized earnings from Alaska’s oil revenues to qualified applicants, averaged over a five year period,. This moving average helps

smooth out any short term political or economic volatility and tends to stabilize the distribution of assets from year to year. In order to collect the dividend, a person must be a permanent resident of the state of Alaska with intent to remain a future resident. They must maintain their residency in the state unless otherwise authorized to live out of state. Some examples include college attendance or military service.

3. Economic Effects

It is undeniable that the annual infusion provided to the populace of the state of Alaska of over \$1 billion dollars has had a dramatic effect on the state's overall economic growth and financial vitality. As noted by the Economic Policy Institute of Washington D.C., "A prosperity dividend...can serve as a booster shot to the economy" (Appelbaum, 2001). This is exactly what happened to Alaska's state economy immediately after the passing of the APF legislation in 1976. The elimination of the state's income tax, coupled with this injection of wealth, served as a stimulus for entrepreneurial activities and created growth in service and trade industries such as seafood and tourism (Goldsmith, 1999). The economic stimulus brought about by state oil revenues and the sharing of this wealth with the population jump started a previously lackluster and highly cyclical economy.

It should also be noted that the APF dividend has made "the distribution of income in Alaska the most equitable in the entire United States...in the last 10 years the income of the poorest fifth of Alaskan families has increased 28 percent...compared to 12 percent for the entire United States." (Goldsmith, 2002) Additionally, the APF has helped to provide a consistent flow of capital to rural and remote areas of the state which are considered some of the poorest in the nation.

4. Socio-Political Impact

The APF dividend is held as a model of an effective, democratic, transparent, well-managed institution. It has provided a modern and workable method to ensure common heritage wealth benefits an entire society (Hartzok, 2001). While this may not have been by *initial* design, its general purpose to prevent oil revenues from being

quickly used up when received was generally agreed upon, and a broad political spectrum of support arose from those concerned with limiting public spending.

The decision to invest the portfolio in stocks and bonds rather than in state projects ensured that APF investment policy became insulated from the vagaries of the political arena. The prudent decision to turn over management of the fund to a private corporation ensured the fund was headed by a narrowly focused board of directors, devoted to maximizing financial returns of the fund. Gradually, the fund acquired a powerful constituency, fervently devoted to continuing the annual cash distribution to all residents from earnings. This effectively tied political fortunes to the success of the fund because many voters supported representatives who favored the continuation of the APF. Moreover, it has had the effect of ensuring that Alaska has not had to resort to personal income taxes or to increase sales taxes to support government activities. (Goldsmith, 2002)

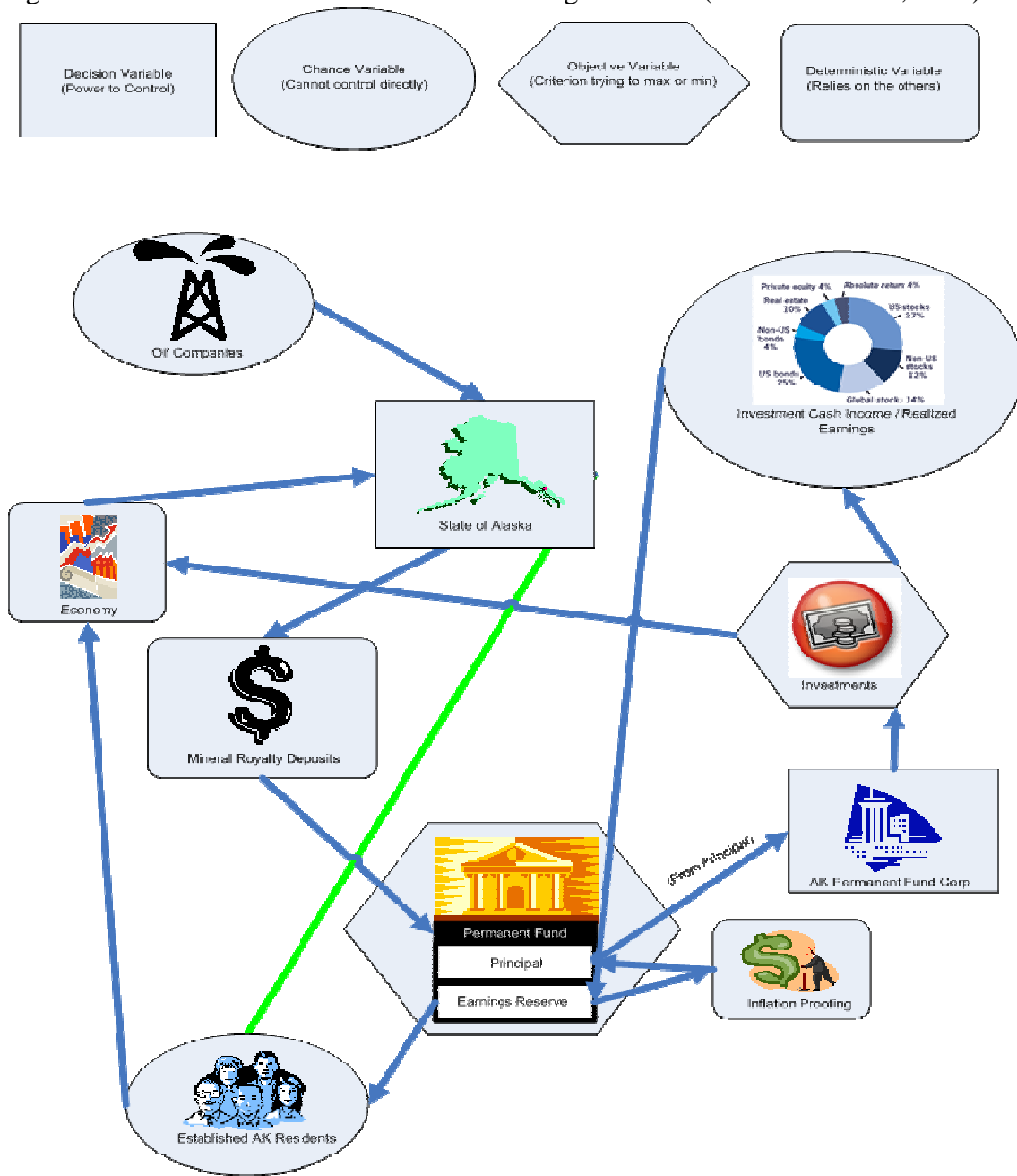
The direct distribution model has proven effective at leading a society to make better investment choices and to have a greater incentive to save windfall rents. Moreover, this economic incentive appears to engage the public politically resulting in a demand for oversight and accountability of institutions that monitor the flow of petroleum revenues. (Weinthal and Luong, 2006)

5. Natural Resource Revenue Distribution Model

In describing the flow of resources through the APF, an influence diagram is helpful (see Figure 7). The arrows represent the direction of influence in this model. The line between the economy, the people, and the state represents the sense of ownership established Alaskan residents have from the natural resource revenue distribution. The ovals symbolize random variables that cannot be controlled directly. The rectangles symbolize decision variables or variables that can be controlled directly. Hexagons symbolize objective variables (i.e., the variables that are to be maximized). Rectangles with rounded corners symbolize deterministic variables (i.e., variables whose values are determined by the value of the other variables).

- a. Oil companies lease oil rights from Alaska, similar to a land lease.
- b. Mineral royalties collected by the state are directly deposited as principal to the permanent fund.
- c. The principal portion of the permanent fund, controlled by the APF Corporation, is invested in marketable securities. Funds are invested locally and globally.
- d. Earnings from investments go to the earnings reserve portion of the permanent fund that can be spent by the state government, with a share of the dividends reserved for state residents. Twenty-five percent of the average earnings over the previous five years are distributed to residents.
- e. Regardless of the interest earned, money for inflation proofing comes from the earnings reserve to protect the principal portion of permanent fund.
- f. Residents typically spend their dividend income predominantly on consumer goods, thereby contributing to the Alaskan economy.

Figure 7. Model of Resource Flows Through the APF (After Goldsmith, 2002)



D. NORWAY'S "GOVERNMENT PENSION FUND – GLOBAL"

1. History

With the discovery of oil in the North Sea in 1969, Norway's oil industry has grown from a fledgling startup into the world's seventh largest producer and third largest

exporter. (Erikson, 2006) Having steadily increased production throughout the first 20 years, Norway clearly understood that their natural resource bounty would not be everlasting and they set out to establish a permanent fund that would convert oil revenues into financial assets. The Petroleum Fund was created in 1990 and has since been renamed the *Government Pension Fund – Global*. The first financial deposits occurred in 1995 and the fund is now the third largest of its kind with assets currently in excess of 160 billion Euros (\$220 billion dollars). (Englund, 2006)

2. Key Elements

Norway's legislature crafted the fund to maximize long-term returns while maintaining the lowest possible risks. To do so, they determined that the fund would invest in both debt and equity and the aim was for a three to seven percent rate of real return. (Ministry of Finance, 1997) To align interests and generate a protective system of checks and balances, policy makers envisioned the fund to be both transparent and accountable, designing divisions of responsibilities among the major agencies and establishing public reporting requirements. (Erikson, 2006) From the fund's inception, it was determined that it would be collectively owned in lieu of providing for individual allotments. Furthermore, the government would not be allowed to borrow from the fund nor would there be any spending or lending directly from the fund itself. (Schreiner, 2004)

3. Fund Operation

The fund is professionally managed by the Central bank of Norway, Norges Bank. Although the fund is operated by the central bank, the fund's investment activities are conducted by the Norges Bank's investment branch and kept completely separate from both central banking activities and from all other private bank activities. An account is established in Norwegian Kroner equivalent to the value of the fund's assets. Oversight is provided by the Minister of Finance and audits by the Office of the Auditor General, who reports directly to Parliament (see Figure 8). (Erikson, 2006)

Deposits into the fund flow only from government budget surpluses. Revenue inflow is predominantly from taxes levied on oil production and from the government's stake in the industry. The State budget is created separately by parliament and all expenditures are from the budget, not the fund (see Figure 9). An annual cash flow, amounting to four percent of the fund's capital asset base, does flow back to supplement the State's budget. (Erikson, 2006)

During the fund's first five years, the Norwegian economy was in recession and the government was running large deficits, resulting in the consumption of all oil revenues. It was not until 1995 that the government experienced its first budget surplus and was able to make the fund's initial deposit. The fund's phenomenal growth over the last decade has been due to the oil industry's growth, consistent government budget surpluses, and favorable returns on invested capital. (Erikson, 2006)

4. Strategic Investment Benchmarks

Norway's pension fund has very specific guidelines regarding its investment strategy and benchmarks. Norway enjoys an extremely stable exchange rate because the entirety of the Government Pension Fund is invested globally. The benchmark investment debt to equity ratio for the fund is targeted at a 40/60 percent mix. Furthermore, the debt portion is geographically diversified, with 45–65% in the European market, 25-45% in the Americas, and 0-20% in Asia and Oceania. Equity is similarly distributed with 40-60% in Europe and 40-60% in the America, Asia, and Oceania (see Figure 10). (Norway Ministry of Finance, 1997)

5. Economic Effects

One of the major problems with a resource dependent economy is that spending rises and falls with commodity cycles and the irregular cash flow of the resource industry. However, Norway has been able to successfully parlay their resource windfall into an economic shock absorber. As a consequence Norwegians have enjoyed many benefits including high per capita Gross Domestic Product (GDP), low unemployment, low inflation, and strong consumer spending. (Gross, 2004)

Although Norway's oil fund can be largely considered a success, the country was by all respects a stable society with well established government and social institutions, prior to the discovery of oil in the region. Yet despite all the benefits of having a stable society and economy, several issues present problems for the future. The absence of a large vibrant high tech industry, the relatively low amount of growth in their non-oil export industries, and the relatively small foreign direct investment into the Norwegian economy all pose a considerable problem in the long run, once the oil does run dry. (Gross, 2004)

Figure 8 depicts the inter-relationships that exist between Norway's governing institutions with regard to the management of the *Government Pension Fund - Global*.

A) The Norwegian Parliament develops the governing policies affecting the fund.

B) The Ministry of Finance is responsible for ensuring the fund follows the regulations developed by the Parliament and reports back to parliament.

C) Parliament also specifies that the Auditor General is responsible for the auditing and oversight of the Finance Ministry and the Norges Bank.

D) Norges Bank is the central bank of Norway, but it is a completely separate investment branch which manages the day-to-day operations of the pension fund. This branch fall under the controls of the Ministry of Finance and regularly reports to them.

E) As one additional security measure the Ministry of Finance has hired a private firm to assist with advice on the management and auditing of pension fund assets.

Figure 8. Pension Fund – Global Governance Structure (From Eriksen, 2006)

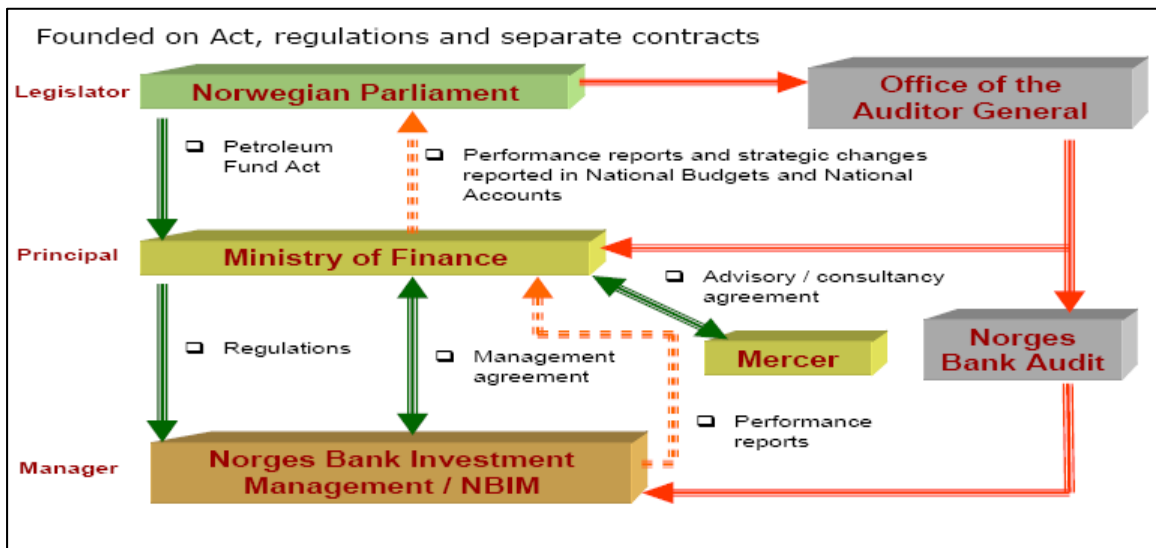


Figure 9 shows the flow of funds between the pension fund and the government budget.

A) Petroleum revenues are generated on a continual basis and act as income with respect to the Parliament's budgeting process.

B) The budgeting process takes place separately and once coupled with the revenue figures, funds are transferred to the pension fund if there is a budget surplus. If there is a deficit no money flows into the pension fund.

C) Meanwhile previous surpluses already transferred to the pension fund from previous years continue to realize investment income and contribute to the growth of the pension fund.

D) A partial withdrawal from the fund occurs to cover existing pensions paid out by the government.

Figure 9. Interaction between the Pension Fund – Global and the Fiscal Budget (From Eriksen, 2006)

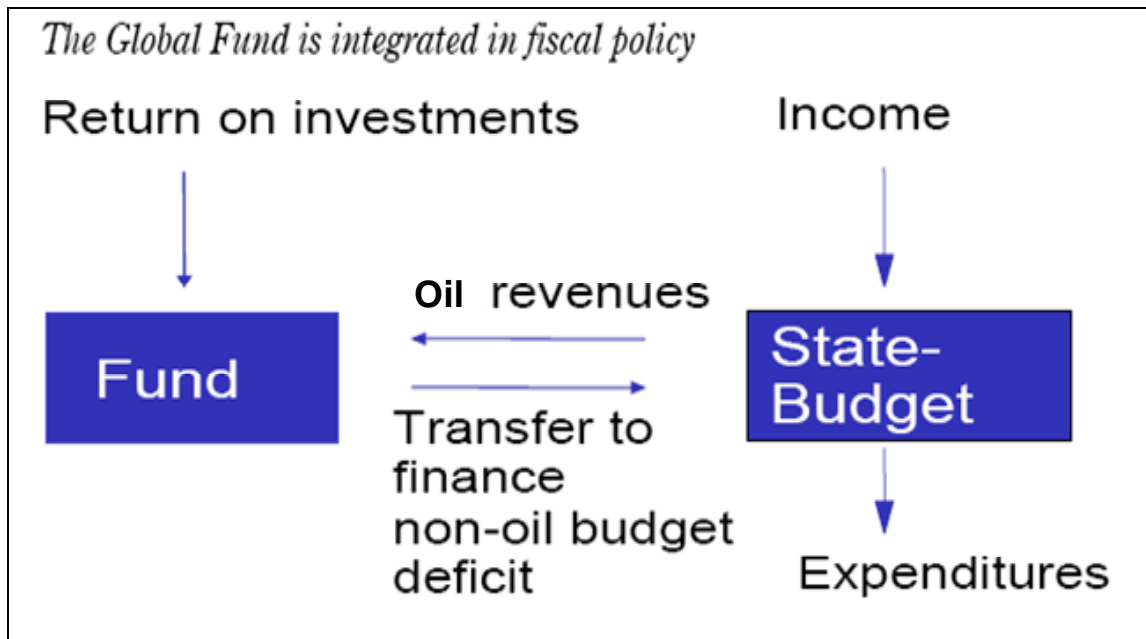
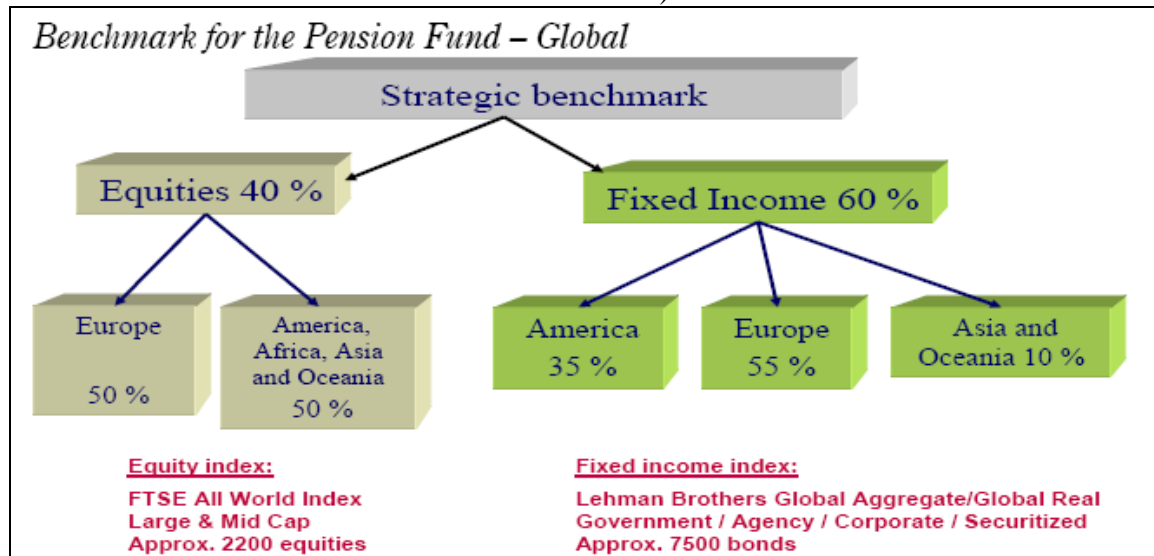


Figure 10 depicts the investment strategy for the fund as mandated by policy.

- A) The benchmark investment debt to equity ratio for the fund is targeted at a 40/60 percent mix.
- B) Furthermore, the debt portion is geographically diversified, with 45–65% in the European market, 25-45% in the Americas, and 0-20% in Asia and Oceania.
- C) Equity is similarly distributed with 40-60% in Europe and 40-60% in the America, Asia, and Oceania.

Figure 10. Pension Fund – Global Strategic Investment Benchmarks (From Eriksen, 2006)



E. CHAD'S WORLD BANK MODEL

1. History

Since its independence in 1960, Chad has been constantly plagued by civil strife, political corruption, and violence. It's social and economic development has been stymied by perpetual rebellion, troublesome neighbors, ethnic fighting, and war (Rosenblum, 2000). Completely landlocked and one of the poorest nations in the world, Chad's predominantly arid terrain and grossly inadequate infrastructure ranks them 165th out of 174 on the United Nations Human Development Indicator (Levy, 2002). Even with the discovery of oil in the early 1970s, it has taken over 30 years to establish sufficient political stability and foreign investment to begin extraction efforts (Guyer, 2002).

2. The World Bank

In 1995, the World Bank was recruited to develop a program which could assist Chad in overcoming several obstacles affecting its ability to develop an oil industry. The benefits of World Bank involvement include not only project funding, but also revenue

management assistance, environmental and social oversight, and most importantly reduced risk perceptions (Rosenblum, 2000).

For World Bank involvement, Chad had to agree to a mandatory anti-corruption action plans and good governance initiatives prescribed by the World Bank under its Highly Indebted Poor Countries (HIPC) initiative. More specifically, the HIPC called for Chad to hold multi-party elections, improve its judicial system, appoint an auditor general, and pass major anti-corruption and program transparency laws (Kabemba, 2003). The development of an environmental management plan was initiated to protect against environmental catastrophe, to develop an oil spill response capability, and to hire an environmental monitoring firm. Social aspects of the plan prescribe compensation to Chadian citizens who were forced to relocate, safe working conditions and good wages for local workers, as well as safety and health education programs (Guyer, 2002).

The “Petroleum Revenue Management Program” was created for the purpose of combating poverty and creating transparency in the allocation of oil revenues. The Chadian parliament passed a revenue management law which describes the government’s poverty reduction goals and calls for nearly 80 percent of the Chadian government’s portion of the revenues to go toward education, health, infrastructure, social, and rural development programs (Williams, 2001).

3. How it Works

The diagram illustrates how resources flow through the system as they are developed, collected, managed, and, ultimately, distributed to the recipients (See Figure 11).

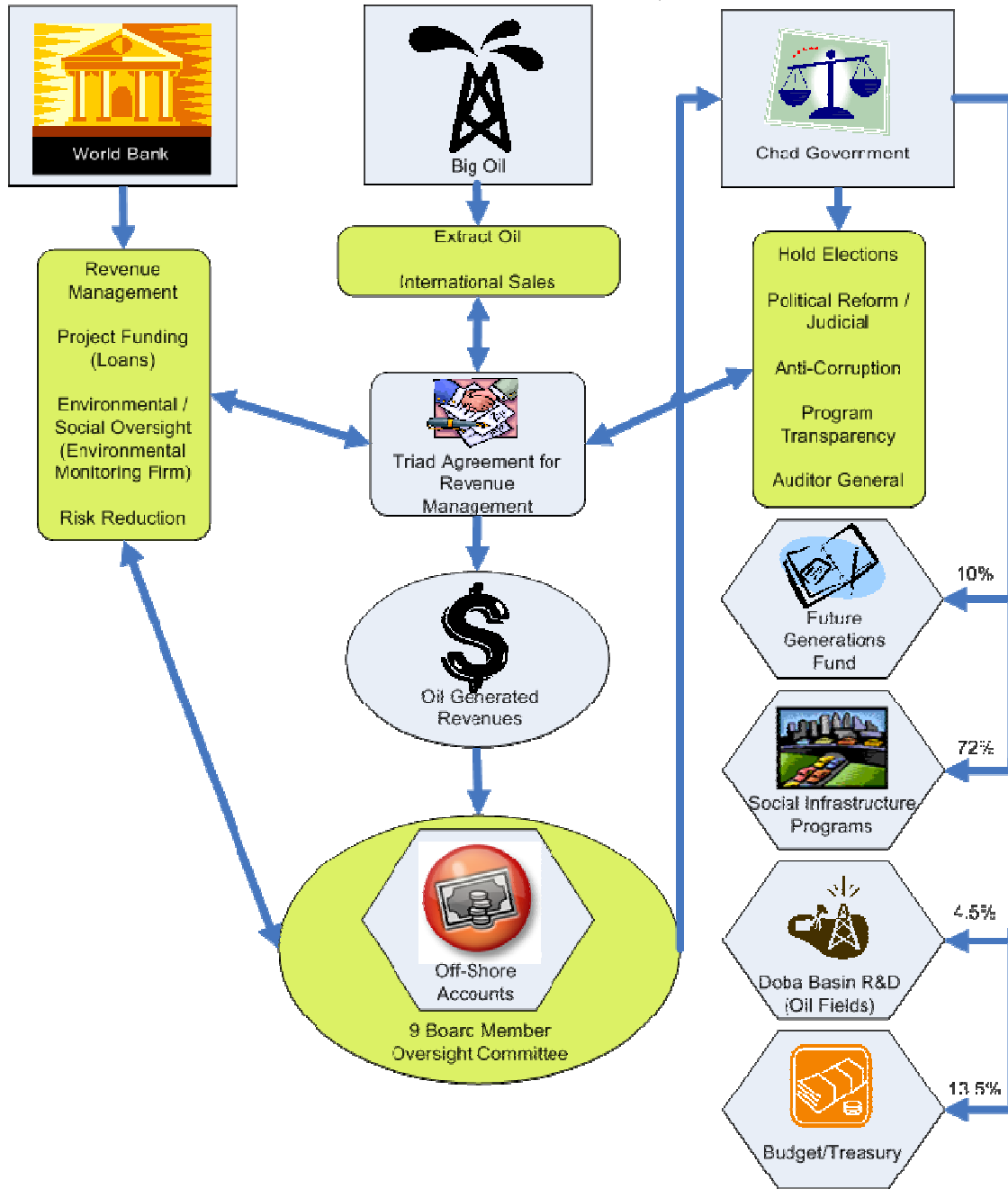
- a. Net income from dividends and royalties are deposited in an offshore escrow account. The offshore accounts ensure proper accounting and auditing.
- b. The net income is then allocated to several different accounts:
 1. 10 percent goes to a “Future Generations Fund.”
 2. 4.5 percent goes toward the development of the Doba Basin where the majority of Chad’s oil is derived.

3. 13.5 percent goes to the government treasury.
4. 72 percent goes toward rural development, education, environment, health, social and infrastructure programs. (Mobbs, 2003)

A monitoring board is charged with the responsibility of approving account activity and ensuring disbursements meet prescribed requirements. The nine board members are composed of four from civil society, one representative each from an NGO, trade union representative, religious leader, human rights association, and a parliamentary member from an opposition party (Eifert, 2002).

Transparency is ensured through the institution of extensive auditing and reporting of the petroleum accounts budget allocation review process involving civil society and the government. The findings and reports are then published annually to the public (Guyer, 2002).

Figure 11. Model of Resource Flows Through the Chad Government (After Eifert, 2002, and Mobbs 2003)



4. Economic Effects

Thirty years after discovery, the exportation of oil finally began in 2004. With annual oil revenues now contributing over 50 percent of Chad's GDP and after extensive World Bank planning, expectations are running high for serious social improvements to

take effect. Although it may be too early to pass judgment on the success or failure of Chad and the World Bank's project, some critics claim that little benefit has been derived from the oil revenues thus far.

Chad's own oil revenue management law dictates baseline fund levels for priority sector expenditures (e.g., capital investments). These baseline targets are supposed to increase in proportion with any increase in revenues; however, this has not been the case. Instead, programs defined by law as non-priority (mostly defense spending) have received excessive funding increases. This may explain the reason for the real or perceived notion that the country has not yet seen a benefit from generous oil revenues. (Gary & Reisch, 2005)

Aside from "putting huge profits into a few well-connected hands...little if any revenue has benefited the country" (Garcia, 2007). Moreover, in January 2006, the World Bank suspended \$124 million in loans and stopped disbursement of \$125 million in oil royalties because of the government's failure to live up to the project conditions. Chad's president not only threatened to shut down oil production, but "demanded over \$100 million from Exxon Mobile to tide the country over until the World Bank released Chad's royalties." (Garcia, 2007)

THIS PAGE INTENTIONALLY LEFT BLANK

VII. AN ANALYSIS OF THE BENEFITS AND COSTS OF ALTERNATIVE RESOURCE DISTRIBUTION MECHANISMS

After having briefly described several models used to distribute national resources to citizens, an analysis of the benefits and costs of alternative revenue sharing schemes is performed to explore options that might be available to the Iraqi government. In this way, the features most desirable in a model for revenue sharing in Iraq may be identified and presented for consideration. The models that will be analyzed include those referenced in figures 5 through 7, 11, and 13. These influence diagrams include those of the central government controlled by Saddam Hussein (Figure 5), and the proposed draft legislation currently in deliberation by the parliament of the Republic of Iraq (Figure 6), the state of Alaska (Figure 7), and the nations of Norway (Figure 8-10), and Chad (Figure 11). These diagrams illustrate how resources flow through the system as they are developed, collected, managed, and, ultimately, distributed to the recipients.

This project has one primary goal: to explore the benefits and costs of alternative approaches that would guarantee private Iraqi ownership of that nation's oil wealth. This relates back to the principal-agent problem discussed in chapter IV. The principal-agent problem in Iraq revolves around the fact the U.S. (the principal) wants to extricate itself from the occupation of Iraq, but only under conditions that ensure stability and economic opportunity for Iraqi citizens. The ideal for the U.S. would be to find a solution to the Principal-Agent problem that motivates individual Iraqi citizens (the agents) to choose for themselves behavior that will foster greater security and stability for their families and for the future of their country.

The study has two underlying hypotheses: First, through private ownership, individual Iraqis will have an incentive to preserve the value of their shares, resulting in a strong financial interest and demand for security. Second by allowing every Iraqi the ability to sell some or all of their shares, and/or to receive dividends from an oil fund, financing will be made available for entrepreneurial efforts. Given an adequate macroeconomic and institutional environment, this could have the effect of stimulating the Iraqi economy unleashing the entrepreneurial spirit of the Iraqi people, boosting

economic development, and creating even greater demand for stability by individual Iraqi citizens. Further allowing the accumulation of shares has the potential to build powerful ownership interests that will insist on the protection and efficient management and operation of Iraq's oil infrastructure.

The two primary criteria used to evaluate the respective revenue sharing models are related to two fundamental questions: (1) does the population benefit from the distribution of resource wealth in such a way that it encourages investment and economic development? And (2) does the model encourage the people to contribute to the security and stability of the nation? While the first criterion is more common in the stabilization and reconstruction literature, the second is critically important in Iraq.

A. THE AUTOCRATIC CENTRAL GOVERNMENT MODEL UNDER SADDAM HUSSEIN

1. Benefits

The central government model has some advantages, but many more disadvantages (see Table 2). One of the advantages is that the decision making process is simple, especially in a central government that is autocratic. Under Saddam Hussein for example, the governing body was effectively a single individual, advised only by close family members, without any further checks and balances. In this model, the dictator can make sweeping changes, edicts, and may dismantle or construct favorable legislative and judicial bodies at his or her whim. This has the effect of the government using the country's oil wealth to respond to perceived threats to the regime's power, to engage with his or her enemies, and to manipulate the economy.

Table 2. Benefits and Costs of the Autocratic Central Government Model

BENEFITS	COSTS
Streamlined decision making Responsive Reactive	Easily Corruptible People lack a voice in decision making Economic and Social Standing determined by the government Discrimination Economy Affected by the “Resource Curse” Oppressive Security

2. Costs

Despite the benefit of streamlined decision-making, an autocratic government is easily corruptible, as was the government of Saddam Hussein. The public’s wealth is treated like the personal wealth of the ruler and his family members, and is used to buy support and protection. This is often seen in countries affected by the “resource curse,” or nations which fare poorly because their immense resources are squandered or put to ill use. Discrimination can also become government policy. For example, Saddam Hussein’s Sunni minority Baath party decided who had standing in society and who did not.

Unilateral decisions are made under autocratic governments without the constraint of public support. Saddam spent billions on the 1980 to 1988 war with neighboring Iran and nearly bankrupted the country. Those who objected to the government’s policies or to Saddam Hussein quietly disappeared or were jailed, often indefinitely.

Increased dependency of the population on the “benevolence” of the ruler tends to break down individual initiative and undermines the benefits of trade and exchange. The government’s subsidized public distribution system provided many of the things required

by the people to survive, such as food, fuel, utilities, and a sweeping public-employee pension system (Jane's: Economics, 2007). These subsidies, though appearing benevolent, had the effect of discouraging the labor supply and caused many of the economic distortions associated with price controls. In sum, though some wealth was distributed to the people (the first goal), the only ways in which security and stability was encouraged was through oppressive tactics. The central government model under Saddam Hussein has many lessons for the present government of Iraq, but most are negative.

B. THE CURRENT (DRAFT) HYDROCARBON LEGISLATION

1. Benefits

The current draft hydrocarbon law being debated in Iraq's parliament offers a more hopeful option for the distribution of Iraq's oil wealth. However, given its many vague elements, it is not yet clear whether it will be approved and, if approved, if it will distribute wealth to the people and significantly contribute to a stable and secure Iraq (see Table 3).

One of the benefits of the draft law model is that control and distribution of oil receipts is centralized, but controls over the factors of production are not. This means that the central government collects and distributes oil wealth, but if it abuses its power or does not act according to the will of the powerful regions and provinces, the regions can simply turn off the pumps. In general, this idea seems positive, but it does offer room for conflict, which will be addressed in the cost portion of this discussion. The Iraqi National Oil Company (INOC) has been designated the responsibility to administer Iraq's oil infrastructure and to export refined products, while the regions coordinate and form contracts with foreign oil companies, subject to approval by the central government.

These checks and balances are important in preventing the monopoly of power by a single faction of government and to prevent corruption. Furthermore, the people can now vote for their chosen representatives who, in their view, would vote favorably for the things they value the most. It is the ultimate hope of the Iraqi people (and, for that matter, the world) that Iraq will eventually be free of the kinds of sectarian and factional

differences that interfere with its political processes, and that the economy will rebound to provide the goods and services the people desperately need.

Table 3. Benefits and Costs of the Draft Hydrocarbon Legislation Model

BENEFITS	COSTS
<p>Centralized control of oil receipts</p> <p>Equitable distribution of wealth</p> <p>Decentralized control of oil production</p> <p>System of checks and balances</p> <p>People have elected representatives</p>	<p>Vaguely defined – multiple interpretations</p> <p>Potential central/regional government conflict</p> <p>Central control of oil receipts may provide incentives for a coup</p> <p>Draft law does not address:</p> <p>Continued subsidies</p> <p>Inefficiencies in labor markets</p> <p>Security/stability incentives not clear:</p> <p>Individual citizens do not have an obvious stake that might encourage joint national interests to preserve security and launch reconstruction</p>

2. Costs

The main limitation of the draft law is that its provisions for wealth distribution are vaguely defined and are open to multiple interpretations by the elected government of Iraq, many of whom have very different opinions about how its oil wealth should be divided. The Kurds in the north believe the central government should allow 58 percent control of oil revenues to reside with the INOC and, thus, be more subject to control by

the regions. In response, the central government of Iraq has threatened to blacklist oil companies doing business with the Kurds. The country's minority, the Sunnis, believe the draft law is the latest example of a conspiracy to break the country into its three regional contingents: the Kurds in the oil rich north, the similarly rich Shi'a in the south, and the Sunnis in central Iraq with virtually no oil resources (The Economist, September 30, 2006).

Another limitation of the draft oil law is that it does not address the excessive and unsustainable subsidies provided to Iraqi citizens, or the fundamental inefficiencies that exist in the labor markets. These factors are important because no model for distribution of the oil wealth in Iraq will be successful if these problems are not addressed.

The intention of the draft law is for equitable wealth distribution for all Iraqis. The draft law model offers vague provisions that focus on government control of oil receipts, but do not provide the population with a direct and visible stake in the distribution process. Because of this, it does not yet support the goal of this project to offer a path for Iraqis to guarantee their own security by ensuring each Iraqi citizen has a stake in Iraq's oil wealth.

C. THE ALASKA PERMANENT FUND (APF) MODEL

1. Benefits

The Alaskan model used to manage oil revenues has several advantages and few disadvantages. Beginning with the very reason for the fund's creation, the APF created a renewable resource (cash) out of a non-renewable natural resource (oil). Revenues generated by the fund have revitalized a once-sluggish economy and eliminated the need for personal income and sales taxes. Citizens also gain monetarily from this distribution of wealth through annual dividends, leading to several social and political benefits directly attributable to the fund (see Table 4)

Alaska's dividend program spurs public involvement and creates a strong demand for representative government. The fund drives a powerful constituency devoted to continuing annual earning distributions to residents and contributes to an effective

democratic, transparent, and well-managed wealth distribution model. Furthermore, it limits government-spending, preventing oil revenues from being spent too quickly, and serves as a means of checks and balances. Finally, with the many benefits provided citizens by this model, there is a built-in motivation to make the best use of oil assets to ensure future gains.

In designing the Alaska permanent fund, great care was taken to ensure growth of the principal and to provide stability in the investments. Built-in inflation protection programs ensure the fund will continue to provide for future needs of the state and the population. Distributions from the fund are based on percentages that ensure preservation of the principal. By setting expenditures based on a moving average, short-term political and economic volatility is diminished while stabilizing the distribution of assets from year to year. This stability provides the government opportunities not afforded other states in that revenues are predictable and make budgeting more reliable.

The fund is diversified by design and gains are not solely tied to the state of Alaska. The decision to invest the portfolio in stocks and bonds rather than in state projects ensures fund investments are insulated from any negative effects from the local political arena. This is important since the state receives over four-fifths of its annual revenue from oil while the industry itself only employs a small fraction of the population. It would also provide, if necessary, the ability for prompt payment of any government debt, though Alaska has not had to deal with that scenario.

There are also benefits to the Alaska model that may not have been intended at its inception but that could prove valuable in Iraq. First, citizens must gain standing to benefit from the fund. In Alaska, this simply requires demonstrating residency and an intent to remain a resident. In Iraq, it could serve as means to document its citizens by issuing identification cards or even obtaining fingerprint records as a way to gain standing. Second, Alaska withholds payments to persons who have been involved in legal troubles or have judgments against them. For Iraq it could serve as motivation to not be involved with insurgents. Finally, Alaska offers citizens the opportunity to invest their

dividends in college funds that have become a popular option for those with children. Iraq could offer similar education alternatives or even provide voucher credits to be used in a privatization effort.

Table 4. Benefits and Costs of the Alaska Model

BENEFITS	COSTS
<p>Population gains from wealth distribution</p> <p>Population has stake in security</p> <p>Creates demand for representative government</p> <p>Turns non-renewable oil into renewable cash resource</p> <p>Can be used to pay down debt</p> <p>Lowers or eliminates taxes</p> <p>Can account for inflation</p> <p>Provides checks and balances, and transparency</p>	<p>Creates political distortions</p> <p>Creates dependency on oil wealth</p> <p>May encourage consumption over investment</p>

2. Costs

Many of the criticisms of the Alaska model involve differing opinions on how best to manage income generated from the fund. There will always be questions as to whether funds could have been better spent through other means. One consistent criticism is based on dealing with the powerful political constituency that is devoted to the fund. Many feel that this single political issue is too big an influence and that other important areas of government may be overlooked. Potential does exist for the views of citizens to become distorted when the number one issue deals with their pocketbook. It could also influence how the population interacts or interfaces with (and could unfairly drive expectations of) the government.

When considering our primary goal, this model does offer a realistic way to distribute natural resource wealth to the population. Dividend payments would provide instant gratification, demonstrating to citizens the benefits of the program. If the population of Iraq adopts a model like this and people understand the correlation between their personal finances and success of the program, then the example of Alaska suggests there should be a greater desire for people to get involved to increase security and stability and protect the system.

D. THE NORWEGIAN MODEL

Norway has been successful at avoiding the “Dutch disease,” otherwise known as the “natural resource curse,” which has afflicted many resource rich regions around the world. One of the primary reasons for their success has much to do with the development of the *Government Pension Fund – Global*. As a model, this fund possesses several positive characteristics and a few negatives.

1. Benefits

As previously discussed, the Norwegian model was principally designed to transform non-renewable natural resources and the revenues those resources generated into long term financial assets which would benefit many future generations of Norwegians. The Norwegian government understood the limits of their known oil reserves and that they would likely be depleted over the course of the century. To counter the eventual loss of these resources the government developed an economic model which would allow them to maximize their benefits for many years beyond the depletion of their known oil reserves (see Table 5).

Another positive characteristic of the Norwegian model is the incredible asset growth which has resulted from the operation of this model. Since its initial deposit in 1995, the fund has grown to well over 220 billion dollars worth of assets in a relatively short period of time. Although this performance cannot be guaranteed into the future, the rising price of oil and a sensible investing plan promise to keep this fund growing at a significant pace for several years to come.

Although the Norwegian fund does not provide an annual stipend to every citizen, the population does gain from the distribution of wealth. Designed specifically as a pension fund, distributions are made to retirees and as supplemental income to those unable to work. The fund is an entitlement for every Norwegian citizen, but predominantly benefits those in the latter stages of life. The fund provides a significant social economic safety net.

This model also benefits greatly from having a soundly structured investment strategy which to date has provided strong and stable growth of the fund's financial assets. Furthermore, by investing globally the fund has contributed to a stable currency and low inflation.

Table 5. Benefits and Costs of the Norwegian Model

BENEFITS	COSTS
<p>Converts natural resources into long term financial resources</p> <p>Careful growth of financial assets</p> <p>Population gains from wealth distribution</p> <p>Provides for a social safety net</p> <p>Well structured investment strategy</p>	<p>Does not strongly promote innovation and investment in the rest of the economy.</p> <p>Does not directly impact population's desires for increased security and stability</p>

2. Costs

With all its benefits, the Norwegian model does have some inherent drawbacks. First of all, Norway has not been able to develop a robust manufacturing sector. Much like the U.S., Norway's economy and workforce continues to revolve around strong service sector and presents more of a consumer market than an export market. Norway's primary export is crude oil, yet this industry is not labor intensive and employs only a small fraction of the population. The focus on Norway's oil industry may be contributing to the lack of innovation in the manufacturing sector.

A problem with the Norwegian model for Iraq is that since monetary disbursements are not distributed to all citizens each year, this model would not directly impact the population's desires for increased security and stability. This model provides for an indirect benefit in the years to come for many citizens but it does not provide direct benefit to all citizens in the present. This has not been a problem for the Norwegians because they have for many years had a relatively homogeneous population with strong well established government and social institutions. This cannot be said for many other resource rich regions.

In sum, this model does achieve the goal of ensuring that the population gains from the distribution of wealth, but because the gain is relatively indirect. in that it provides those gains in the form of social programs and future pensions, it does not strongly support the objective of creating a system under which the current population of Iraq would want to establish security and stability in order to defend the region.

E. THE CHADIAN MODEL

Unlike the Norwegian and Alaskan models which were developed to operate in well established and stable societies with functioning social institutions, the Chadian model was developed by the World Bank for an unstable environment. Due to this specific focus in the development of the Chadian model, it offers several benefits for developing nations with natural resources. However, despite many built-in checks and balances, the Chadian model does have its drawbacks.

1. Benefits

The most obvious benefit of this model for Iraq is that it was designed specifically to operate in an unstable environment. This is accomplished by making it more attractive for foreign investment through risk reduction measures. The World Bank's involvement alone has given the program a sense of legitimacy, but it is the strict governance and oversight which reduces the inherent risks involved in developing the infrastructure required to create a functioning economy. For Chad's government to reap the benefits

from the sale of their natural resources, they must invest in infrastructure, pass anti-corruption legislation, and make social reforms (see Table 6).

The model also calls for a significant investment to improve the quality of life for the population at large. Approximately 72 percent of all revenues are mandated to be used to address social and infrastructure improvements. This includes investments in education programs, health care institutions, the development of roads and improvements in agriculture. Furthermore, offshore management of the oil income creates a mechanism to prevent Chad's government from reneging on its agreements with the World Bank and foreign investors. Other mandatory requirements by the World Bank focus on government reforms including anti-corruption laws, the development of a strong judicial system, the rule of law, and multi-party elections to ensure equitable representation of all the people of Chad.

Lastly, program oversight and transparency is designed into the model. In addition to the oversight provided by the World Bank, several NGOs are involved in the development of social programs and environmental protection. The offshore management of oil revenues is overseen by a nine member board that does not have direct ties to the ruling majority in Chad's government. Transparency is provided to the public through annual program reports published by the newly appointed Auditor General.

Table 6. Benefits and Costs of the Chadian Model

BENEFITS	COSTS
Promotes foreign investment Provides anti-corruption measures Designed for unstable governments Built-in oversight and transparency. Requires: Multi-party election and judicial reforms Significant social and infrastructure reforms	Not corruption proof Unproven results and track record Does not guarantee stability No evidence population actually benefits from reforms Not clear that individuals have the incentive to preserve security or the means to promote economic development

2. Costs

One of the drawbacks to the Chadian model is that it is not impervious to corruption. As previously discussed, Chad's government responded to the withholding of oil revenues for its failure to comply with all of the World Bank's requirements. It did so by issuing threats to shut down oil facilities and blackmailing oil companies, to apply pressure on the World Bank to release the withheld funds. Another problem is that this model does not necessarily promote stability. Although reforms are mandated, shifts in political power to control those oil revenue fueled reforms still pose some underlying risks. Moreover, this model is relatively new and has yet to generate proven results.

When considering our primary goal, this model does appear to distribute Chad's natural resource wealth for the benefit of the population. However, that wealth distribution is not in the form of monetary disbursements, but in the form of government controlled social reforms. It is not clear that this would motivate the population to increase security and stability.

THIS PAGE INTENTIONALLY LEFT BLANK

VIII. FILLING THE GAPS IN THE DRAFT OIL LAW

While some degree of description and evaluation has previously been provided regarding the draft hydrocarbon legislation that is currently being debated in Iraq's parliament, it deserves further analysis. The reason why this is important is that a significant portion of the draft oil law is presently being debated for passage into formal Iraqi law. Therefore, it seems likely that without the identification of a pressing need, the Iraqi parliament will "stay the course." The following provides some justification for why certain changes may be beneficial.

The "draft oil law" provides for the distribution of oil revenues and defines the rights of foreign investors. Our review of this law consists of five parts. First the analysis expands on what was discussed in section VII.B providing some additional background of the draft oil law. Second, an illustration of its principal components and a statement of their respective statuses will be presented. Third, a discussion of the current state of the legislation will be provided. This discussion relies on several prominent documents available in the peer-reviewed literature and mainstream media. Fourth, our study of alternative strategies for the management of an Iraqi oil fund illustrates two key findings: 1) the Iraqi draft oil law could be strengthened through the use of exogenous oversight and financial management assistance; and 2) improvements can be made to the way resources are managed and ultimately distributed to the Iraqi people. Finally, this discussion leads to some conclusions and general recommendations that should be of use to U.S. and Iraqi policy makers and other countries struggling to make the best use of their national wealth.

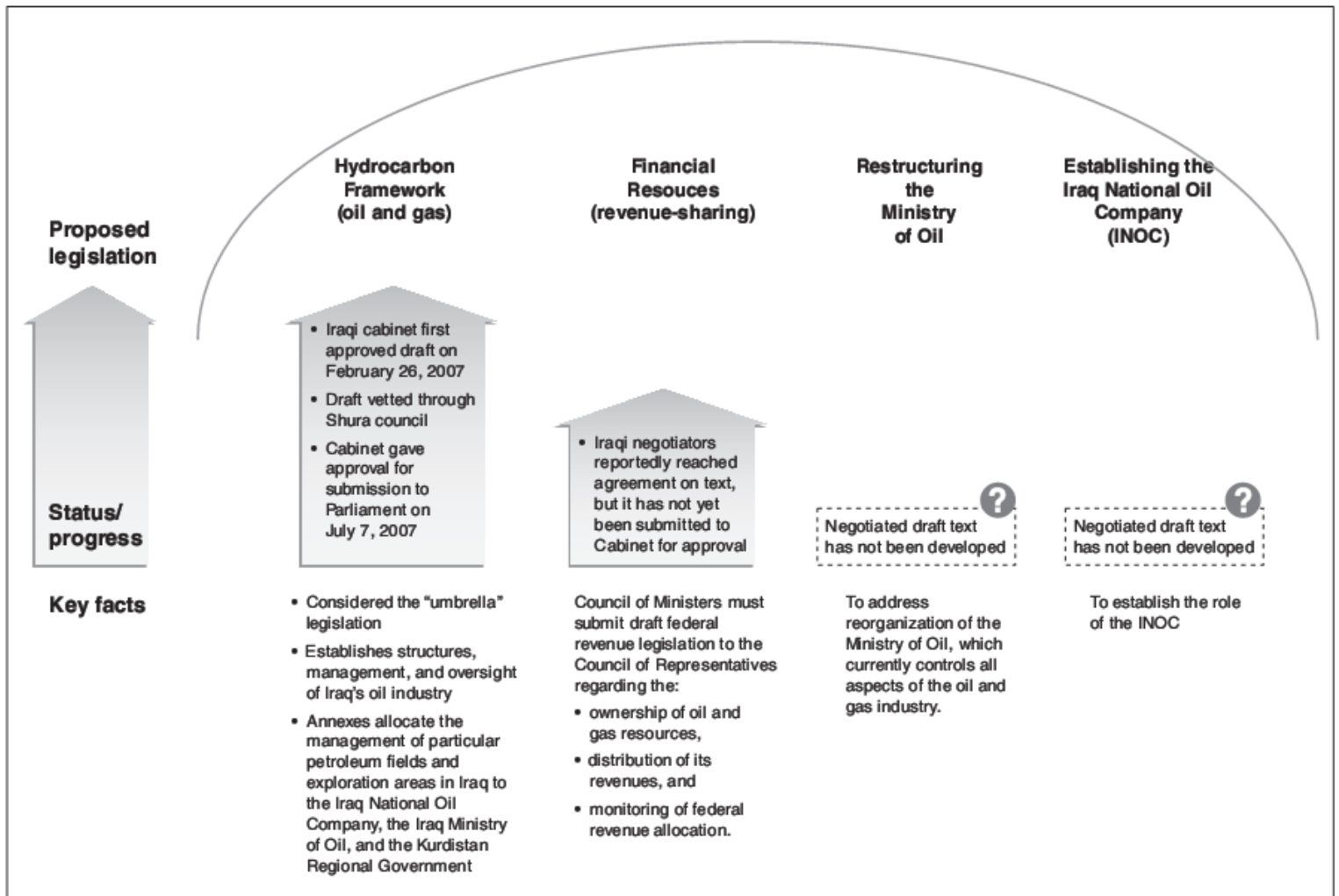
A. ANALYSIS OF THE DRAFT OIL LAW

1. The Components

The four components of the proposed draft oil law are: (1) a hydrocarbon framework (oil and gas), (2) financial resources (revenue-sharing), (3) restructuring the

ministry of oil, and (4) establishing the Iraq National Oil Company (INOC). Figure 12 shows the status of the four pieces of the proposed hydrocarbon legislation as of 1 July 2007.

Figure 12. Status of Iraq's Hydrocarbon Legislation as of July 1, 2007 (From GAO, July 17, 2007)



Source: GAO based on information from the State Department and Kurdistan Regional Government.

In order for the legislation to be enacted into law, it must first be submitted to Iraq's Council of Ministers, which is Iraq's cabinet. It must also be vetted by the Shura

council, which is a committee responsible for ensuring constitutionality and managing reconciliation between Iraqi and Islamic law. It then must be presented to Iraq's parliament, the Council of Representatives. Once laws are passed, they are made available to the public via Iraq's official publication known as the Official Gazette. (GAO, July 17, 2007).

Only the umbrella legislation, which lays out the structure, management, and oversight of Iraq's oil industry, exists in any substantial form. Revenue-sharing provisions of the draft oil law have been preliminarily agreed to, but have not been submitted to the cabinet for approval. Moreover, none of the literature available speaks to what might be in those provisions. The other two components, restructuring the Ministry of Oil and the reconstitution of the Iraqi National Oil Company, have not been written yet. The first piece, draft oil law framework, was first approved on February 26, 2007. In July of that year the cabinet gave approval for submission to its parliament, where it sits today. (GAO, July 17, 2007).

2. Constitutional Issues

The draft oil law currently being debated in Iraq's parliament builds upon the Iraqi Constitution that was enacted into law on 15 October 2005. The most applicable sections of the constitution pertaining to the draft oil law are sections 110 through 115. These sections are in great dispute due to vague elements that are interpreted in different ways by the various interested parties. They concern responsibility of the central government, regional governments, and define ownership of shared and exclusive jurisdictions and hydrocarbon assets. (Republic of Iraq, 2005)

Section 111 of the constitution states that, "Oil and gas are owned by all the people of Iraq in all the regions and governorates." (Republic of Iraq, 2005) This has led to the interpretation by the Kurdistan Regional Government that the regional governments are in ownership of hydrocarbon resources (Shafiq, 2006, as cited by Mahdi, 2007), with no mention of equal and joint ownership of these assets by the Iraqi people.

Article 112 of the constitution says the central government has prime responsibility for the management of “present” oil fields. However, there is dispute whether Article 115 applies to oil and gas, which states that powers not specifically granted to the central government reside with the regional governments. Moreover, it has been argued that the term “present” refers to existing and producing oil fields, not to those which are known to exist but not yet producing, nor fields which are not yet known. According to Mahdi (2007),

In essence, many politicians engaged in backroom bargaining are ultimately embroiled in a resource conflict—rather than a conflict of ideas and visions. What has been lost is even a minimal sense of a common national interest, or for that matter any sense of what are the “communal” interests.

With widespread individual ownership of oil revenues (through ownership shares or an oil fund) could come a common bond and national interest in the preservation and development of security and the reconstruction of Iraq. Unfortunately, the issues in the draft oil law are greatly confounded by the vague language in the constitution, but they are also a result of political realities. When the constitution was written, hastily and without much public discourse, it favored too heavily the regions, driven primarily by their participation in the political process. The Sunnis, once the party of primary dominance under the old Baath regime, had at first sought to boycott the process. The oil-rich Kurds in the north and similarly rich Shi’a in the south fought for representation within the government to protect their interests. But oil does not fit neatly within the confines of the borders of the 18 regional governorates in Iraq (Mahdi, 2007).

Based upon the language in the constitution, the basic construction of the draft oil process would leave the regional governments with the majority of the power to contract with foreign oil companies, subject to approval from the central government. This creates a strong incentive for an adversarial relationship. Under the proposed system, which would distribute receipts on a per-capita basis, distortions would exist along factional lines. The Sunni minority population is concerned that it would receive a diminished share of oil revenue. Herein lies the potential for discontent and incentive for a continuation of the violence seen to date.

Further complicating the matter, Iraq has lost much of its expertise due to previous wars and economic sanctions placed on Saddam Hussein's regime. As a result, the regional governments do not possess sufficient managerial and technical competence to manage the complicated contracts required of long-run relationships with foreign oil companies. Contract terms, especially in operating climates of uncertain stability and security, would likely favor the oil companies. Without a consolidated economic policy designed to ensure adequate long-term outcomes for the benefit of the Iraqi people, the oil companies will be able to pit the regions against each other, negotiating only those contracts most favorable to them. (Mahdi, 2007)

In addition, devolving control over the oil contracts to local governments and opening the oil sector to unregulated foreign investment would not lead to increased transparency. Rather, the creation of multiple competing jurisdictions could lead to more corruption, graft, and outright theft of oil products. Pooling resources nationally could be more efficient and might also increase the public's ability to assess the policy and see where the country's resources are actually going. (Mahdi, 2007) However, centralized power and control of oil resources presents its own dangers discussed earlier. The solution suggested in this thesis is to distribute ownership shares and/or oil revenues directly to the Iraqi people.

Lately, the Kurdish Regional Government (KRG) has been putting the vague language that exists in the draft oil law to the test, and has begun signing foreign oil companies to exploration contracts. A compromise had been worked out in February 2007, wherein a powerful Federal Oil and Gas Council (FOGC) would manage national production and development policy. The FOGC, chaired by the prime minister, would have final approval over regional contracts. The regional authorities would be responsible for specific negotiations and development planning. However, since then the KRG passed its own oil law stipulating their regional authority and contracts signed under it. They began negotiating specific contracts with companies such as the U.S.' Hunt Oil in early September 2007. The FOGC has since ruled the law illegal and has stated the move amounts to a virtual attempt at secession by the KRG. (EIU, 2007)

B. ALTERNATIVE MODELS FOR OIL FUND MANAGEMENT

1. Post-Invasion Oil Policy

Many ideas have been offered about the best use in Iraq for its vast oil revenues. In August 2004, Ayad Allawi, the interim prime minister (essentially a U.S. appointee at that time) appointed Barham Saleh, previously his Kurdish nationalist deputy, as the leader of the Supreme Council for Oil Policy. The main parameters of the Allawi government, which remain as general guiding principles today (in spite of the draft oil law), are, according to Mahdi (2007):

The need to divorce government from running the oil industry and to commercialize its operations, leading to the application of strict financial constraints on the national industry and the setting of ambitious performance targets that are expected to drive the industry towards partnership with major international oil companies.

The separation of presently utilized oil resources and existing operations from unexploited proven oil and gas reserves, making future development and production the domain of the private sector, particularly foreign companies, with or without Iraqi partners.

Rapid growth of crude oil output levels with simultaneous plans to restore existing capacity and double it within seven years.

Gradual privatization of wholesale and retail petroleum products, and distribution and service activities, with future refinery expansion left to the private sector and foreign companies.

While it does not seem altogether palatable (politically or practically) to say, "...with or without Iraqi partners," there is a general theme of reduced government intervention and strong overtones of privatization in these suggestions. However, like the draft oil law, Mr. Saleh's ideas did not solve the principal-agent problem that exists in Iraq because it ignores the importance of economic incentives for individual Iraqis. Consequently, the people feel no vested interest in seeing the government succeed. Rather, factional and sectarian loyalties, disenchantment, and competing interests are allowed to flourish.

This project previously compared several alternative models applying a qualitative benefit-cost analysis that illustrated how other nations have handled the distribution of their national wealth. However, to propose similar ideas that might motivate Iraqis to vie for their own security and stability suggests looking at some of the specific implementation options that have been suggested by others for the nation of Iraq. The next section of this paper will look at the International Citizens Trust (ICT) approach to Iraq and The International Compact with Iraq. Finally, the thesis concludes with some specific recommendations and a description of general implementation issues that must be considered by any policy maker working in this area.

2. International Citizens Trust (ICT)

The International Citizens Trust, or ICT, is a proposal put forward by Michael E. Bond, former member of the U.S. Navy's UDT/SEAL team and president of Quantex Corporation until 2002. The ICT focuses on the creation of electronic accounts for each Iraqi citizen wishing to participate in a revenue-sharing program, who lives within the confines of Iraq. Every citizen, regardless of race, age, gender, or ethnicity, would be allowed to participate. (Bond, 2007)

The registration of citizens serves a dual purpose: it may both be used as an official census, essential for participation in a revenue distribution program, and as the documentation necessary for creating individual trust accounts for citizens. Foreign corporations doing business within the confines of Iraq would be required to create shares of dividend-paying stock in each newly created corporate entity. This would result in monies entering the system through their mandatory participation, which is automatically paid into shareholders' trust accounts. Local companies would be provided the opportunity to register to take payments from individual trust accounts. Consequently, individual citizens would be allowed the use of these electronic accounts, which would provide them personal liquidity. This injection of capital would have the immediate effect of fueling the Iraqi economy through the creation of personal wealth for investment and an "ability to spend." The additional demand for products would spur not only local market growth, but also that of the region. (Bond, 2007)

This program purports to have a number of primary effects. First, it would serve as an incentive for displaced citizens who fled the country to return. This would inject skilled labor helping correct one of the fundamental deficiencies that currently exists in the labor market. Second, the government would receive a one percent fee on every transaction so it would not need to rely on proceeds from oil or a personal income or consumption tax to fuel the government. As a result it would reduce corruption because government officials would have no choice but to accept the increased transparency that would accompany a system of electronic transfers of wealth. Third, standing in the revenue distribution program would be easily and readily obtained by each citizen who chose to live within the country and participate in the program. Fourth, it would provide a means for privatization for all public services, to include public utilities and healthcare. Fifth, it would greatly reduce the impact the shadow economy has on the country due to increased electronic payments for a vast majority of goods and services within the economy. Sixth, it would require oversight by an independent and international non-governmental organization, which would also encourage transparency and accountability. Seventh, it would limit the influence of spoilers and regional governments' abilities to extract value from the Iraqi economy through the sale and trafficking of illicitly obtained resources. Finally, it would increase the citizens' faith in their government by requiring checks and balances to its power, a basic and necessary infrastructure that would protect the rights of citizens from abuse by the government. (Bond, 2007)

3. The International Compact with Iraq (ICI)

The ICI is an initiative of the government of the Republic of Iraq to form a partnership with the international community. It is co-chaired by the Government of Iraq and the United Nations and is partnered with the International Monetary Fund (IMF), World Bank, and other regional financial institutions. The Compact is a five-year national plan that provides benchmarks for reconstruction, national unity, and mutual commitments within Compact membership. The goals are to restore peace in Iraq and to provide a framework for economic reconstruction and sound governance. (Republic of Iraq, 2007)

Within the Public Resource Management context of the broad landscape of general provisions agreed to within the Compact, are some general but very interesting features for oil revenue distribution. It stipulates the Government of Iraq will “establish a single petroleum account, to receive revenues from all crude oil and gas sales,” and that the account will be transparent and accountable to the people in accordance with its constitution. It states the account will be subject to rigorous auditing and monitoring by a well-known international authority which will provide published financial statements of outputs, exports, payments, and revenue data. Equitable oil revenue distribution is supposed to be provided for all Iraqis. One of the most interesting features provided for in the compact is, “The Government of Iraq will endorse the EITI principles and commence exploratory consultations towards its implementation.” The following will provide a brief explanation of the EITI and its roles and responsibilities in helping previous nations-in-conflict to manage their mineral wealth. (Republic of Iraq, 2007)

a. Extractive Industries Transparency Initiative (EITI)

British Prime Minister Tony Blair introduced the EITI at the World Summit on Sustainable Development in 2002. The objective was to encourage those nations involved in extractive industries to make public the amounts paid in and out of the accounts for natural resources. This was the result of pressure from non-profit organizations such as Global Witness, that eventually spread to various governmental entities and private companies involved in extraction. (Lee, 2006)

The EITI supports improved governance in resource-rich countries through publication and full disclosure of corporate payments and government revenues from oil, gas, and mining operations. It maintains good governance is the key element to combating the “resource curse,” by converting large revenues from extractive industries into economic growth and the reduction of poverty. This reduces the government’s means through which to oppress its population, leading to conflict, poverty, and corruption. In its own terms (EITI, 2007),

The EITI is a coalition of governments, companies, civil society groups, investors and international organizations. It has developed a robust yet flexible methodology that ensures a global standard is maintained throughout the different implementing countries. The EITI Board and the international Secretariat are the guardians of that methodology. Implementation itself, however, is the responsibility of individual countries. The EITI, in a nutshell, is a globally developed standard that promotes revenue transparency at the local level.

One of the most interesting items the EITI features is that it offers a “clear signal to investors that the government is committed to strengthening transparency and accountability over natural resource revenues.” It states that companies and citizens can help reduce the risk to foreign investors by reducing large-sum, long-term corruption. (EITI, 2007)

The EITI’s International Advisory Group establishes its board and is composed of “five constituent groups representing implementing countries, supporting countries, civil society organizations, industry, and investment companies.” Dr. Peter Eigen, founder of Transparency International, is its chairman. The Board is supported by an International Secretariat and a group of full-time staff based in London. A move to Oslo, Norway is planned. (EITI, 2007)

The Board has agreed to accept 15 countries as candidates and will be proceeding to implementation. The candidates have two years to establish their full compliance. They are: Azerbaijan, Cameroon, Gabon, Ghana, Guinea, Kazakhstan, Kyrgyzstan, Liberia, Mali, Mauritania, Mongolia, Niger, Nigeria, Peru, and Yemen. Seven of the 15 have already published clean audit reports. Nine other countries have applications pending, with more information having been requested by the end of 2007. Those countries are: Chad, Democratic Republic of Congo, Equatorial Guinea, Madagascar, Republic of Congo, Sao Tome and Principe, Sierra Leone, Trinidad and Tobago, and Timor-Leste. Implementation of the EITI requires countries to meet or exceed several criteria (see Table 7). The EITI process is illustrated in Figure 13. (EITI, 2007)

Table 7. The EITI Criteria (From EITI, 2007)

<ul style="list-style-type: none"> • Regular publication of all material oil, gas and mining payments by companies to governments (“payments”) and all material revenues received by governments from oil, gas and mining companies (“revenues”) to a wide audience in a publicly accessible, comprehensive and comprehensible manner.
<ul style="list-style-type: none"> • Where such audits do not already exist, payments and revenues are the subject of a credible, independent audit, applying international auditing standards.
<ul style="list-style-type: none"> • Payments and revenues are reconciled by a credible, independent administrator, applying international auditing standards and with publication of the administrator’s opinion regarding that reconciliation including discrepancies, should any be identified.
<ul style="list-style-type: none"> • This approach is extended to all companies including state-owned enterprises.
<ul style="list-style-type: none"> • Civil society is actively engaged as a participant in that design, monitoring and evaluation of this process and contributes towards public debate.
<ul style="list-style-type: none"> • A public, financially sustainable work plan for all the above is developed by the host government, with assistance from the international financial institutions where required, including measurable targets, a timetable for Implementation, and an assessment of potential capacity constraints.

Figure 13. The EITI Process (From EITI, 2007)



C. SUMMARY

This chapter analyzed one component of the problem of how best to avoid the resource curse in Iraq. It primarily focused on some weaknesses in the current Iraqi draft

oil law. This analysis was conducted by first reviewing the background of the draft oil law and expanding on what was already provided in chapter VII. Second, a discussion of its principal components, and a statement of their respective statuses, was shown. Third, a discussion of the current state of the legislation was provided. Fourth, our review of alternative arrangements to manage an Iraqi oil fund illustrated two key findings: (1) the Iraqi draft oil law could be strengthened through the use of exogenous oversight and financial management assistance; and (2) improvements could be made to the way resources are managed and ultimately distributed to the Iraqi people. This leads to some general recommendations that should be of use to U.S. and Iraqi policy makers and other countries struggling to make the best use of their national wealth.

THIS PAGE INTENTIONALLY LEFT BLANK

IX. PROJECT RECOMMENDATIONS

Instead of offering specific recommendations, this project reveals a general framework based on desirable elements of the various models examined, that public policy makers can consider when deciding the most appropriate courses of action. In addition to the elements that were found to be favorable to the project goal of distributing national wealth to a country's citizens, several implementation issues and constraints were identified.

A. ACCOUNTABILITY AND TRANSPARENCY

It is clear much needs to be done to allow Iraqi audit agencies greater flexibility to investigate and prosecute corruption on the part of governmental officials. Until this is done, foreign investment will continue to suffer and theft, corruption, and graft will drain the Iraqi economy of a steady stream of revenues and capital investment opportunities. Moreover, nations holding Iraqi debt will be much less willing to forgive its massive debt obligations until long-term stability is achieved. As the Chadian model suggests, some exogenous oversight is strongly suggested to ensure the government is responsive to the publics' and foreign investors' needs for transparency, anti-corruption, and accountability measures.

1. Limitations of the Extractive Industries Transparency Initiative (EITI)

The EITI provides a general framework within which a nation may seek to legitimize its efforts toward these important considerations, but it is not without its detractors. One critique of EITI also happens to be one of its strengths--that it is primarily managed from outside, rather than from inside the country. It is obvious that exogenous oversight would be extremely useful for nations at risk of failure in the short-term. However, it could prove extremely detrimental to the long-term ability of a nation to provide for its own accountability and transparency if it does not learn from the experience. This would be especially true for nations who delegate these responsibilities

without making significant investments in both human capital and knowledge management relating to anti-corruption and efficiency. Moreover, while an international body such as the EITI may have a nation's best interests at heart, it would likely often be at odds with the host nation's government due to conflicting priorities and agendas. As appears to be happening in Chad, resentment may build over time as the international body calls into question decisions made by the host nation.

It is also important to note here that the International Compact with Iraq, or ICI, is a completely voluntary arrangement and is thus subject to the continued cooperation of the host-nation. While international pressure, and even outright sanctions, may have varying levels of success with a nation in non-compliance, there are limits to what the international community can actually do to force a nation back into compliance. This phenomenon is seen in the Chadian model wherein the World Bank and International Monetary Fund had to suspend the contracting right of Chad and attempted to freeze its assets due to continued failure to meet minimum, mandatory accountability requirements. It can be argued that, in cases like this, the people suffer while the regime in power is relatively unaffected, especially in the short term. Finally, due to the international nature of exogenous oversight, external mandates might not be perceived as legitimate by the host nation's people. These problems, if left unchecked, could reduce incentives for stability and reconstruction, thereby threatening the program's ability to contribute significantly to resolving the principal-agent problem.

2. Limitations of the International Compact with Iraq (ICT) Model

The ICT model that promotes electronic means to register citizens and subsequently manages their payments into and out of the system is an attractive idea (Bond, 2007). This approach would also provide opportunities to guard against corrupt government officials, and against those who do not have the best interests of Iraq in mind (e.g., foreign fighters or terrorists).

While a program like the ICT offers great potential value it would require significant infrastructure investments and education to implement. It would also likely

require a massive commitment from the U.S., international organizations, and virtually all stakeholders in the process. Although similar technology does exist and has been used in the past--mobile Automated Teller Machine (ATM) technology, complete with fingerprint verification systems, have been used in South Africa since the end of apartheid--it would likely require considerable modification. (Goodman, 1994)

In South Africa, national wealth distribution checks had previously been sent to distribution centers in the countryside, requiring recipients to walk long distances to receive them. Many recipients were so inexperienced with these types of transactions that they were shortchanged when they cashed their checks, or were subject to any number of other fraudulent activities. First National Bank used mobile ATMs to bring money closer to their homes, directly to recipients, and verified the recipient's identity through the biometric fingerprint reader built into the ATM. This greatly reduced fraud and increased efficiency by ensuring the right amounts were provided to the right people. It is likely that technology of this sort could be converted for use in Iraq. (Goodman, 1994)

B. PRIVATIZATION

By moving away from a per-capita, *regional* revenue distribution system, to a one-citizen, one-share model, the incentives for power struggles and disenfranchisement are greatly reduced. This is due to the fact that revenues would no longer be solely distributed to the provincial governments who could choose to do with the revenue what they liked, including not distributing it to the people. The privatization of Eastern Bloc countries revealed that, by issuing shares in a previously publicly-held resource, a great value-adding mechanism is created for the country, the government, and the people. The people benefit from a psychological sense of satisfaction from owning a part of the country's resources. Personal wealth is created through dividends from the stock that is held. The ability to consolidate shares results in large shareholder interests with an incentive to protect the factors of production and demand an efficient, transparent government.

Privatizing the Iraqi National Oil Company would allow private ownership and stock distribution in that company, which owns all the factors of production and supply equipment in the country under the draft oil law (see Figure 6). Citizens of Iraq, who participate in a process of registration (the ICT provides one representative model) and gain standing through verified citizenship and good behavior, could then either hold their shares of this important, valuable national resource, or sell them in a free market. As seen with the Alaska Permanent Fund (APF) model, revenue flows create citizen-stakeholders who have an incentive to be involved in the political process. These stakeholders, in turn, favor stability and tend to support more transparent and representative governance.

In the case of Iraq, the premium on security and stability suggests a vesting process be used for share ownership so people stay focused on the benefits of national integrity, efficient and effective oil development, and stability and security. For example, Iraqis might be allowed to sell only 20% of their shares per year, over 5 years. This would solve some of the problems that could be created by those who would sell all their shares immediately and then become disenfranchised. It would also fight against sellers' remorse if the value of those shares increased dramatically after security, stability and economic prosperity took hold in Iraq.

C. FUND LONGEVITY

This project found the APF model particularly appealing in that the principal of the oil revenue fund is protected. Only the interest in the APF is paid out to the citizens, thereby protecting the resources from short-sighted government exploitation. By pursuing investments in Alaska, the U.S., and even globally, the APF has been able to transform non-renewable oil resources into a renewable financial resource for citizens that will have a life well beyond the lifetime of the oil.

D. OTHER CONSTRAINTS AND IMPLEMENTATION ISSUES

Other issues will also have to be dealt with by policy makers. One such issue involves inter-generational transfers and family size. If one family has five members and

another has ten, will the one-person, one-share model create economic distortions, serve as a source of discontent, or create unintended consequences? Moreover, should shares be allowed to be willed to surviving family members upon their death? If so, does this not also create a fairness issue for smaller families, or for families who are unable to have children? These questions are a few examples of issues that must be addressed prior to implementing an Iraqi oil revenue distribution fund.

Also, it should be clearly understood that any program expected to make a difference in the lives of average Iraqi citizens would need to be marketed appropriately. An education effort directed at the Iraqi people would need to focus on: the value of their shares and the distribution process; the vesting process; the benefits to individuals of protecting oil infrastructure from attack; and the connection between the reduction in violence and debt forgiveness and future economic development. One marketing slogan could be, “It’s your Oil. Protect it, invest it wisely, and give your family the future it deserves.”

Finally, the central government today controls and distributes oil receipts and maintains the country’s extensive system of subsidies for food, fuel, electricity, other utilities, and pensions. Until the public distribution system is dismantled, it will continue to distort the Iraqi economy through price controls and discourage those who are seeking work. One possible way forward would be to gradually phase out subsidy payments and price controls as shares are distributed and dividend payments issued.

THIS PAGE INTENTIONALLY LEFT BLANK

X. CONCLUSION

This project began with a review of the literature that provides important background information on key issues that face Iraq. Next, an examination and analysis was provided of current challenges confronting the government of Iraq. It was followed by a basic description of the principal-agent problem, especially as it concerns the nation of Iraq. Then the project examined alternative methods of distributing a nation's natural resource wealth to its population. The privatization experiences of both Czechoslovakia and Poland were briefly described. These examples presented two alternative approaches that could be useful if Iraq decided to undertake similar measures. Along with a discussion of Alaska's Permanent Fund model, and the experiences of Norway and Chad, a description of the fundamental components of these alternative wealth distribution models served as the basis for a qualitative benefit-cost analysis. Several criteria were formulated to evaluate the proposed alternatives. These criteria were an outgrowth of three main questions asked of each alternative distribution model. First, how efficiently and equitably would the model distribute oil ownership to the Iraqi people? Second, how effective is it likely to be in encouraging individuals to support increased security and stability? Finally, how effective is it likely to be in contributing to future economic development? The results of the benefit-cost analysis were used to evaluate alternative oil distribution proposals and to support several policy recommendations. One of the most important policy considerations that resulted from this analysis was that the current Iraqi draft oil law is not likely to solve the principal-agent problem in Iraq, but could instead compound the problem. The recommendations made here are vital to ensuring the Iraqi people will benefit from a stable and secure society by giving them a personal stake in the successful development of their economy.

This project had one primary goal: to explore the benefits and costs of alternative approaches that would provide private Iraqi ownership of that nation's oil wealth. The study had two underlying hypotheses. First, through private ownership, individual Iraqis will have an incentive to preserve the value of their shares, resulting in a strong financial interest supporting their demand for security. Second, by allowing every Iraqi the ability

to sell some or all of their shares, and/or to receive dividends from an oil fund, financing will be made available for entrepreneurial efforts. Given an adequate macroeconomic and institutional environment, this could have the effect of stimulating the Iraqi economy unleashing the entrepreneurial spirit of the Iraqi people, boosting economic development, and creating even greater demand for stability by individual Iraqi citizens. Finally, by allowing the sale and accumulation of shares, powerful ownership interests are likely to arise that will insist on the protection and efficient management and operation of Iraq's oil infrastructure.

LIST OF REFERENCES

- Alnasrawi, A. (2001). Oil Sanctions, Debt and the Future. [Electronic version]. *Arab Studies Quarterly*; Fall 2001, 23(4), 1-14. Retrieved August 27, 2007, from ProQuest.
- Anderson, J. (2002). The Alaska permanent fund: Politics and trust. *Public Budgeting & Finance*, 22, 57.
- Appelbaum, E. and Freeman, R. B. (2001). The Case for a Prosperity Dividend. [Electronic version]. Economic Policy Institute, Briefing Paper, 1-10. Retrieved March 8, 2007 from <http://epinet.org>.
- Behrman, J. N. & Rondinelli, D. A. (2000). The transition to market-oriented economies in central and eastern Europe: Lessons for private enterprise development. *European Business Journal*, 12(2), 87.
- Bond, M. (2007). International Citizens Trust Approach to Iraq. Condensed draft of unpublished materials provided to the MBA project team, originally prepared for the House Armed Services Committee.
- Brown, R. (2005). Reconstruction of infrastructure in Iraq: End to a means or means to an end? *Third World Quarterly*, 26(4), 759-775.
- Brown, W. S. & Thomas, C. S. (1994). The Alaska permanent fund: Good sense or political expediency? *Challenge*, 37, 38-44.
- Chalabi, F. (2000). Iraq and the future of world oil. *Middle East Policy*, 7(4), 163-173.

- Cummins, C., Hafidh, H. and Shishkin, P. (2007). Politics & Economics: Iraq Oil Plan Avoids Key Issues; Draft Law Is Ambiguous on Revenue Sharing, Role of Foreign Firms. [Electronic version], *Wall Street Journal*, March 9, 2007. Retrieved September 11, 2007 from <http://libproxy.nps.edu/login?url=http://proquest.umi.com.libproxy.nps.edu/pqdweb?did=1229585281&sid=8&Fmt=4&clientId=11969&RQT=309&VName=PQD>
- Economist Intelligence Unit, The. (2007, September 19). Iraq politics: Battle resumes over Iraq's oil law. *EIU ViewsWire*. Retrieved November 2, 2007, from ABI/INFORM Global database. (Document ID: 1367901531).
- Eifert, B., Gelb, A, & Tallroth, N. B. (2002). The Political Economy of Fiscal Policy and Economic Management in Oil-Exporting Countries. [Electronicversion]. The World Bank. Retrieved on 19 September, 2007 from <http://www.arts.ualberta.ca/~courses/PoliticalScience/474A1/documents/EifertGelbTallrothPolEconFiscalPolicyEconMgmtOilCountries.pdf>.
- Eisenhardt, K. (1989) Agency Theory: An Assessment and Review, *The Academy of Management Review*, 14 (1): 57-74.
- Englund, T. (2006). Saving the Norwegian oil wealth for future generations. [Electronic version]. Retrieved on August 27, 2007 from <http://www.norway.org.au/policy/pensinfund.htm>.
- Eriksen, T. (2006). The Norwegian Petroleum Sector and the Government Pension Fund – Global. [Electronic version]. Ministry of Finance, Norway. Retrieved on August 20, 2007 from http://www.regjeringen.no/upload/FIN/Statens%20pensjonsfond/The_Norwegian_Petroleum_Sector_te.pdf.
- Extractive Industries Transparency Initiative (2007). Fact Sheet, 4th Quarter 2007. Retrieved November 2, 2007 from the World Wide Web at: http://www.eitransparency.org/files/document/EITI_FactSheet_Oct07.doc

- Foot, C., Block, W., Crane, K., & Gray, S. (2004). Economic policy and prospects in Iraq. *Journal of Economic Perspectives*, 18(3), 47-0.
- Garcia, J. M. (2007). African Promise: Chad, August-September 2006. [Electronic version]. *The Virginia Quarterly Review*: Winter 2007. 83(1), 49-58. Retrieved September 19, 2007 from ProQuest.
- Gardiner, N. & Phillips, J. (2004). Investigate the United Nations Oil-for-Food Fraud. [Electronic version]. The Heritage Foundation. Retrieved October 12, 2007 from http://www.heritage.org/Research/InternationalOrganizations/upload/62155_1.pdf
- Gary, I. & Reisch, N. (2005). Chad's oil: Miracle or mirage? Following the money in Africa's newest petro-state. [Electronic version]. Retrieved December 3, 2007 from <http://www.bicusa.org/en/Project.7.aspx>.
- Goldsmith, S. (1999) Alaska Gross State Product, 1961 – 1998. [Electronic version]. University of Alaska at Anchorage. Retrieved March 7, 2007 from: <http://www.commerce.state.ak.us/dca/pub/gsp992.pdf>.
- Goldsmith, S. (2002). The Alaska Permanent Fund Dividend: An Experiment in Wealth Distribution. [Electronic version]. Paper presented at the Basic Income European Network 9th International Congress. Geneva, Switzerland, September 12. Retrieved March 7, 2007 from http://www.unterschied.de/Ausgewahlte_Texte/englisch/The_Alaska_Permanent_Fund_Dividend_An_Experiment_in_Wealth_Distribution.pdf.
- Goldstein, M. (1997). Privatization success and failure: Finance theory and regulation in the transitional economies of Albania and the Czech Republic. *Managerial and Decision Economics* (1986-1998), 18(7/8), 529. Retrieved October 4, 2007, from ABI/INFORM Global database. (Document ID: 408937331).

- Goodman, S. (1994). Computing in South Africa; an End to Apartness? *Communications of the Association for Computing Machinery*, 37(2), February 1994, pp. 21-25. Retrieved November 21, 2007 from the World Wide Web. Available at: http://www.africa.upenn.edu/Comp_Articles/Computing_15213.html.
- Gross, D. (2004). Avoiding the Oil Curse: What Norway can teach Iraq. *Slate*. Retrieved on August 26, 2007 from <http://www.slate.com/id/2108873>.
- Guyer, J. I. (2007). Briefing: The Chad-Cameroon Petroleum and Pipeline Development Project. [Electronic version]. *African Affairs*. 101, 109-115. Retrieved on 19 September, 2007 from <http://www.arts.ualberta.ca/~courses/PoliticalScience/474A1/documents/JaneGuyerChad-CameroonPetroleumPipelineProject.pdf>.
- Gylfason, T. (2000). Natural resources, education, and economic development. 1-11. Retrieved on April 24, 2007 <http://www.hi.is/~gylfason/pdf/eea2000k.pdf>.
- Hamre, J. and Sullivan, G. (2002). Toward Postconflict Reconstruction. *The Washington Quarterly*, 25(4), 85-96.
- Hartzok, A. (2001). The Alaska Permanent Fund: A Model of Resource Rents for Public Investment and Citizen Dividends. [Electronic version]. Retrieved March 8, 2007, from <http://www.mkeever.com/hartzok.html>.
- Henderson, D. R. (2002). German Economic "Miracle." *The Library of Economics and Liberty: The Concise Encyclopedia of Economics*. [Electronic version]. Retrieved on November 2, 2007 from <http://www.econlib.org/LIBRARY/Enc/GermanEconomicMiracle.html>.
- Hsieh, C. (2003). Do consumers react to anticipated income changes? Evidence from the Alaska permanent fund. [Electronic version]. *The American Economic Review*, 93(1), 397-405. Retrieved March 8, 2007 from JSTOR.

- International Monetary Fund (IMF). (2007). African department database, March 29, 2007, from The World Economic Outlook Database. [Electronic version]. Retrieved electronically November 16, 2007 from the World Wide Web at: <http://imf.org/external/pubs/ft/reo/2007/afr/eng/sreo0407.pdf>.
- Jane's Information Group. (2007, July 12). Demography (Iraq). Jane's Sentinel Security Assessment – The Gulf States. Retrieved August 23, 2007, from Jane's database.
- Jane's Information Group. (2007, July 12). Economy (Iraq). Jane's Sentinel Security Assessment – The Gulf States. Retrieved August 23, 2007, from Jane's database.
- Jane's Information Group. (2007, June 28). Executive Summary (Iraq). Jane's Sentinel Security Assessment – The Gulf States. Retrieved August 23, 2007, from Jane's database.
- Jane's Information Group. (2007, June 28). Internal Affairs (Iraq). Jane's Sentinel Security Assessment – The Gulf States. Retrieved August 23, 2007, from Jane's database.
- Jane's Information Group. (2007, July 5). Security (Iraq). Jane's Sentinel Security Assessment – The Gulf States. Retrieved August 23, 2007, from Jane's database.
- Kabemba, C. (2003). Central Africa. [Electronic version]. Global Corruption Report, 2003. Retrieved on September 19, 2007 from <http://unpan1.un.org/intradoc/groups/public/documents/APCITY/UNPAN008452.pdf>.
- Kasaev, E. (2007). The Iraq Oil Policy: Shock and Awe. [Electronic version]. International Affairs. 53(1), 98-100. Retrieved September 11, 2007 from ProQuest.
- Lee, T. (2006). The Extractive Industries Transparency Initiative: Public Information on Natural Resource Revenues. *Petroleum Accounting and Financial Management Journal*, 25(2), 1-18. Retrieved November 2, 2007, from ProQuest Science Journals database. (Document ID: 1162386161).

- Leeds, E. (1993). Voucher privatization in Czechoslovakia. *Comparative Economic Studies*, 35(3), 19. Retrieved October 6, 2007, from ABI/INFORM Global database. (Document ID: 147113).
- Levy, S. (2002). Oil Boom and Public Investment in Chad. [Electronic version]. University of Toulouse. Retrieved on September 19, 2007 from <http://www.csae.ox.ac.uk/conferences/2001-DPiA/pdfs/levy.pdf>.
- Lipton, D., Sachs, J., & Summers, L. (1990). Privatization in Eastern Europe: The Case of Poland; Comments and Discussion. *Brookings Papers on Economic Activity*, (2), 293. Retrieved October 7, 2007, from ABI/INFORM Global database. (Document ID: 889426).
- Looney, R. (2006a). Can Iraq overcome the oil curse? *World Economics*, 7, 21-44.
- Looney, R. (2006b). Economic consequences of conflict: The rise of Iraq's informal economy. *Journal of Economic Issues*, 40, 991-1007. Retrieved June 1, 2007, from EBSCO database.
- Mahdi, K. (2007). Iraq's Oil Law: Parsing the Fine Print. *World Policy Journal*, 24(2), 11-0_6. Retrieved November 2, 2007, from Research Library database. (Document ID: 1372078041).
- Meggison, W. & Netter, J. (2001). From state to market: A survey of empirical studies on privatization. *Journal of Economic Literature*, 39(2), 321-389. Retrieved October 6, 2007, from ABI/INFORM Global database. (Document ID: 74931067).
- Mobbs, P. M. (2003). The Mineral Industries of Cameroon and Chad. [Electronic version]. U.S. Geological Survey Minerals Yearbook, 2003. 8.1-8.4. Retrieved on September 19, 2007 from <http://minerals.usgs.gov/minerals/pubs/country/2003/cmcdmyb03.pdf>.

- Ministry of Finance, Norway. (1997). Regulation on the Management of the Government Petroleum Fund. [Electronic version]. Retrieved on August 20, 2007 from http://www.earthinstitute.columbia.edu/cgsd/STP/Oil%20revenue%20management/General%20Oil%20Documents/oil_general.htm.
- Muttitt, G. (2006). Production sharing agreements – Mortgaging Iraq's oil wealth. *Arab Studies Quarterly*, 28(3/4), 1-17.
- Park, H. (1998). A selective privatization model: A valuable lesson from eastern European countries. *Multinational Business Review*, 6(1), 44.
- Palley, T. (2004). Oil and the case of Iraq. *Challenge*, 47(3), 94-112.
- Pohl, G., & Claessens, S. (1997). Privatization and Restructuring in Central and Eastern Europe. Working Papers — Yale School of Management's Economics Research Network, Retrieved November 16, 2007, from Business Source Complete database.
- Rosenblum, P. (2000). Pipeline Politics in Chad. [Electronic version]. *Current History*: May 2000. 99(637), 195-199. Retrieved on September 19, 2007 from ProQuest.
- Republic of Iraq. (2005). Iraqi Constitution drafted by members of the Iraqi Constitutional Committee; approved by referendum that took place on 15 October 2005. Retrieved November 2, 2007 from the World Wide Web at: http://www.export.gov/iraq/pdf/iraqi_constitution.pdf.
- Republic of Iraq. (2007). The International Compact with Iraq. A Shared Vision. A Mutual Commitment. Compact resolution retrieved November 2, 2007 from the World Wide Web at: <http://www.iraqcompact.org/ICI%20Document.asp>
- Ross, M. (2003). Natural Resources and Civil War: An Overview. Submitted for World Bank Research Observer. 1-37.

- Shafik, N. (1995). Making a market: Mass privatization in the Czech and Slovak Republics. *World Development*, 23(7), 1143. Retrieved October 6, 2007, from ABI/INFORM Global database. (Document ID: 6800570).
- Schreiner, P. (2004). Escaping the Resource Curse: Managing Natural-Resource Revenues in low-Income Countries. [Electronic version]. Presentation conducted by The Earth Institute at Columbia University on February 26, 2004. Retrieved on August 27, 2007 from <http://www.earthinstitute.columbia.edu>.
- Susman, T. (2007, September 14). The Conflict In Iraq: Estimate On Nonmilitary Toll; U.S. Ally Slain; Civilian deaths may top 1 million, poll data indicate; A British survey offers the highest estimate to date of nonmilitary fatalities. In Sadr City, a car bombing kills 4 [HOME EDITION]. *Los Angeles Times*, p. A.6. Retrieved September 27, 2007, from *Los Angeles Times* database. (Document ID: 1335539711).
- Susman, T. and Hameed, S. (2007). Iraq's oil reform legislation advances; The Cabinet OKs a key bill, but disagreements among political factions could pose a hurdle. [Electronic version]. *Los Angeles Times* July 4, 2007. Retrieved on August 27, 2007 from <http://libproxy.nps.edu/login?url=http://proquest.umi.com.libproxy.nps.edu/pqdweb?did=1299177741&sid=8&Fmt=3&clientId=11969&RQT=309&VName=PQD>.
- Tattum, L. (1995). Turning the corner in Eastern Europe. *Chemical Week*, 156(16), 28. Retrieved October 4, 2007, from ABI/INFORM Global database. (Document ID: 5340536).
- United States Government Accountability Office. (2007, January 18). Securing, Stabilizing, and Rebuilding Iraq: GAO Audit Approach and Findings (GAO Report No. GAO-07-385T). Washington DC: U.S. Government Printing Office. Retrieved September 4, 2007, from EBSCO database.

United States Government Accountability Office. (2007, February 15). Rebuilding Iraq: Reconstruction Progress Hindered by Contracting, Security, and Capacity Challenges (GAO Report No. GAO-07-426T). Washington DC: U.S. Government Printing Office. Retrieved September 4, 2007, from EBSCO database.

United States Government Accountability Office. (2007, March 13). Stabilizing Iraq: Factors Impeding the Development of Capable Iraqi Security Forces (GAO Report No. GAO-07-612T). Washington DC: U.S. Government Printing Office. Retrieved September 4, 2007, from EBSCO database.

United States Government Accountability Office. (2007, March 22). Stabilizing Iraq: Factors Preliminary Observations on Budget and Management Challenges of Iraq's Security Ministries (GAO Report No. GAO-07-637T). Washington DC: U.S. Government Printing Office. Retrieved September 4, 2007, from EBSCO database.

United States Government Accountability Office. (2007, April 23). Stabilizing and Rebuilding Iraq: Conditions in Iraq Are Conducive to Fraud, Waste, and Abuse (GAO Report No. GAO-07-525T). Washington DC: U.S. Government Printing Office. Retrieved September 4, 2007, from EBSCO database.

United States Government Accountability Office. (2007, May). Rebuilding Iraq: Integrated Strategic Plan Needed to Help Restore Iraq's Oil and Electricity Sectors (GAO Report No. GAO-07-677T). Washington DC: U.S. Government Printing Office. Retrieved June 1, 2007, from EBSCO database.

United States Government Accountability Office. (2007, July 18). Rebuilding Iraq: Serious Challenges Impair Efforts to Restore Iraq's Oil Sector and Enact Hydrocarbon Legislation (GAO Report No. GAO-07-1107T). Washington DC: U.S. Government Printing Office. Retrieved September 4, 2007, from EBSCO database.

- United States Government Accountability Office. (2007, September 4). Securing, Stabilizing, and Rebuilding Iraq: Iraqi Government Has Not Met Most Legislative, Security, and Economic Benchmarks (GAO Report No. GAO-07-1220T). Washington DC: U.S. Government Printing Office. Retrieved September 4, 2007, from EBSCO database.
- Vinton, L. (1993). Privatization in Poland: A statistical picture. RFE/RL Research Report, 2(32), 58. Retrieved October 9, 2007, from Research Library database. (Document ID: 7231646).
- Vreedenburgh, S. (2004). The Saddam oil contracts and what can be done. DePaul Business & Commercial Law Journal, 2(3), 559-592.
- Weinthal, E. and Luong, P. (2006). Combating the Resource Curse: An Alternative Solution to Managing Mineral Wealth. [Electronic version]. Perspectives on Politics, 4(1), 35-53. Retrieved March 8, 2007 from http://journals.cambridge.org/download.php?file=%2FPPS%2FPPS4_01%2FS1537592706060051a.pdf&code=4d0edbe15d32ebafa22b52fd9ff5084a.
- Williams, A. & Castillo-Bernaus, M. C. (2001). Chad-Cameroon pipeline sets new standards for African project finance. [Electronic version]. International Financial Law Review. 10(9), 10. Retrieved September 19, 2007 from ProQuest.
- World Bank. (1999). A world bank country study: Czech republic, toward EU accession (Main Report). Washington D.C.: The World Bank. (Dudley Knox Library ID: HC270.283.C94 1999).

INITIAL DISTRIBUTION LIST

1. Defense Technical Information Center
Ft. Belvoir, Virginia
2. Dudley Knox Library
Naval Postgraduate School
Monterey, California